THE

ADDRESS IN MEDICINE.

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WHEN I was requested by the Council of your Association to deliver the annual Address in Medicine, I naturally shrank from the task, knowing that I had no novelty to offer you, nor any great discovery in science worthy of your acceptance. I knew, moreover, that the examinations at my hospital and the College of Surgeons would leave me no leisure to prepare for you a scientific discourse. When, however, I considered the possible intentions of the address, my feelings underwent a change; for, remembering the numberless channels by which any new fact or doctrine can reach you, I perceived that the object of the lecture must be far different from that which I at first surmised. It pleased me, indeed, to think that all you required was to hear from the various members of the profession their views on some of the more general subjects relating to the present state of medicine. You may, indeed, be better occupied in listening successively to the outpourings of differently constituted minds than to a purely scientific address; for, although the subjects discussed are of necessity open to controversy and of a nature to invite the expression of different opinions, yet by this very friction of thought good may result.

In the first place I shall declare to you that I have no conservative feelings in respect to doctrine and practices in our profession which have long gone by, but have a strong faith in progress. As everything having a scientific basis must naturally grow better and better, so, I take it, must medicine. The question is probably hardly worth discussing; for I have ever found that, in whatever department of life the subject lies, the clinging to the past on the one hand, or the readiness to embrace a novelty on the other, resolves itself into a question of feeling—and against sentiment, as you all know, there is no appeal. For myself I have the liveliest sympathy with every fresh impulse given to the onward movement of our art; but there are those who are well content with the present, and even look lovingly on the past. I am old enough to have seen with my own eye the gentleman who smiled at Laennec, and made his stethoscope a bouquet-holder. I have heard living men in scientific societies denounce the microscope as a useless instrument. More recently I have heard the sphygmograph spoken of as a pretty plaything; and, more astonishing yet, my own favourite pursuit, the dissection of the dead, declared to lead to no living results. It is impossible to leave untouched this stand-still condition of the human mind for reason of some of the astounding propositions which have arisen out of it. To me it seems that no advance, no progress is possible to be asserted, unless we are capable of comparing the past with the present; but immediately we set about the task, and speak, for example, about the treatment adopted in former days in connexion with that of the present, and point out to the seniors of the profession that their change of practices and adoption of new modes of cure is a sign of the advance of the times, we are met, not by a denial of the facts, but by the assertion of a most wonderful doctrine—viz., that the change is not in them but in nature, and that they have accommodated their treatment accordingly. It does not seem to have occurred to them that science and art are continually on the march, and that there is more knowledge of clinical medicine and pathology than when they were young; that reports of cases are more accurately taken; and least of all do they suspect that their own minds regard the events of their youth with a fonder gaze than the facts of the present day, but lead themselves to believe that the art of medicine which they now practise is in no way preferable to that of times gone by, and that they have simply changed their procedure in accordance with the alteration of the type of mankind. It seems far more probable to them that man, having existed on the earth for 6000 years (according to orthodox notions), should alter his type in the course of one generation, than that they could have in any way erred in the early practice of their profession. To my mind this is one of the most preposterous doctrines ever started in order to save the consistency of a few individuals. Why, if our material is thus changing, it is not safe to practise, for we can never be sure of our results; and thus it may happen, as I was but lately told when I showed how people could lose blood with equal impunity as their forefathers, that perhaps the type was again relapsing into its former dignity. It thus becomes often very difficult to distinguish between absolute truth and the offspring of the human brain. The future professor may be unable to decide, when studying our literature, whether certain diseases were prevailing at certain times, or whether they were merely fashionable complaints of the hour. He may at one time read of fibroid phthisis, at another of ataxia; and he may wonder whether ulceration of the womb, which was once so common, and has now given way to displacements of the organ, shows how disease flows in waves, or merely represents the undulations of the medical mind.

With regard to our general notions of disease, I consider that during the last few years our opinions have made a rapid advance. I naturally take the period during which I have been in the profession, and reflecting upon what was implanted in my own mind by lectures and by books twenty-five years ago. Of course it is necessary to remember that, as our ideas are matured, there is a great liability to transfer one's own earlier and cruder notions to the teachers whom we misunderstood; but, allowing largely for this explanation, I cannot but think that the last twenty or thirty years of pathological progress must have made material alteration in our general opinions regarding disease. For example, a common method of teaching was by the description of acute inflammation occurring in healthy subjects; but the disappointment I felt in common with other students in not seeing these cases in the wards of the hospital soon convinced me that something was wrong. We saw abundance of chronic disease, occasionally an acute affection, but this was generally patched on to some other chronic disorder; so it soon became evident that, with the exception of acute affections of the chest due to vicissitudes of weather, an acute inflammation occurring in a healthy person was of the rarest possible occurrence. Morbid anatomy has been mainly instrumental in making the discovery; and, in fact, this could not have been reached without its aid, since apparently sudden and fatal illnesses were constantly occurring in persons of previously good health. It is true, for example, that persons died of acute peritonitis, and without post-mortem examination the cause was attributed to that universal evil—cold; but inspections have now invariably disclosed some old and long latent mischief in an organ which lighted up the fatal attack. To suppose that a healthy person can suddenly have an acute arachnitis or acute peritonitis may, perhaps, involve an actual pathological absurdity. Even the acute inflammation of the chest occurring in healthy persons under the aggravated causes of wet and cold are far less common than is generally supposed. When, many years ago, a paper was read at a medical society advocating the early treatment of acute disease lest it should become chronic, I took the opportunity of remarking that an opposite suggestion might have been with more propriety advanced—viz., the advantage of arresting chronic processes lest they should become acute. There are far more acute diseases carrying off chronically diseased people than there are chronic diseases which have had their origin in acute affections. What we might more advantageously direct our minds to are the insidious and slow-working changes in the organs and tissues, to see if we can grasp these in their beginnings and check them at their source. What we are too often asked to do, however, is to arrest an acute inflammation which is an evidence only of the beginning of the end. But this is what we see through all nature. If events appear sudden, they are but the exponents of some long anterior hidden causes. The fires of Vesuvius have long been smouldering below before they issue from the summit, and the earthquake is only the result of the pent-up gases arising from chemical changes which have been slowly

going on in the bowels of the earth. In society a honest person cannot possibly become on a sudden a thief, nor a contented people suddenly break out in rebellion. A sane man cannot in an instant become mad; and, as was observed in a late celebrated case, the event which brings the person to justice is but the sudden explosion of distorted feelings long dormant in the brain, but immediately excited by some trivial event. Although, I say, these are views which have been greatly promoted by the advance in pathology, yet the more profound observers had a glimpse of their truth, as did the Father of Medicine himself; for Hippocrates says, "Diseases do not fall upon men instantaneously, but, being collected by slow degrees, they explode with accumulated force." I believe in teaching there is no more important fact to impress upon the minds of students than that diseases come insidiously and slowly; and the circumstances which induce them are those most worthy of attention. When the older text-books spoke of attacking acute disease in a healthy subject, it appears to us almost as Quixotic as making a thief suddenly honest, or making the French a tranquil people by a new form of government.

In studying how various morbid processes are produced, several circumstances have to be considered, more especially the mode of life which favours them, and the original temperament of the individual, which renders him more susceptible to certain agencies than to others. I consider it to be no credit to our profession that the doctrine of temperaments has not been (with one or two exceptions) more systematically taught in our schools. The value of it, however, is tacitly acknowledged in the importance which the man of acumen and experience attaches to the general appearance of his patient; he sees at a glance when the patient enters his study that he is about to hear a story of a nervous affection, or of symptoms evincing a proclivity to phthisis, or of troubles showing that the patient belongs to the gouty class. He may have nothing more than a rule of thumb to help him, but his experience informs him that the world is composed of different varieties of persons, that each is inclined to morbid changes in a given direction, and that the tendency to particular changes may be dormant, but that the exciting causes are ever waiting ready to awaken it into action. A question here arises—whether these predisposing and exciting causes of disease are not the same. For example, let us take the so-called gouty condition of body which is said to prevail more in England than in any other country; and let us assume the correctness of the ordinary theory, that its cause is to be found in the use of malt liquors, strong wines, and nitrogenous food. What we understand by this is, that these conditions, operating through several generations, induce this peculiar diathesis. Now, if this be so, it seems reasonable to infer that the same causes, acting in excess in a peculiar individual so predisposed, will develop in him all the outward manifestations of the disease; and, on the other hand, the avoidance of such causes would be the means of retarding their development, so that the predisposing and exciting causes would be one. Let us take another example of a diathesis which our climate is prone to produce—the tubercular. It is generally believed, from the peculiarities of its distribution on the globe, that cold and moist air, together with certain circumstances of civilised life, are mainly instrumental in the production of the diathesis. These causes, operating through several generations, will produce the consumptive tendency. At the same time, these identical causes are they which induce the disease in a predisposed individual; and, on the other hand, the avoidance of them is the mode by which we hope to arrest the disease. The same reasoning is applicable to other forms of temperaments, and it thus becomes a subject of interesting speculation to inquire under what circumstances they were all developed. In our own country we have to take into consideration the mixture in our race of Norman, Saxon, Dane, or Celt; but at the same time it is evident that the soil, food, and climate are instrumental in producing striking peculiarities. It is a remarkable fact, and one which I have not been able to unravel, that one country should produce two such different temperaments as those which I have chosen as examples—the one tending in disease to the production of gouty phenomena, and the other tending to consumption. Belonging to the first class is the model Englishman, a good example of whom may be found in the late Lord Palmerston. I allude to a man of sanguineous temperament, with great activity and energy both of mind and body—a man ready for all emergencies, full of pluck, plenty of "go," of social habits, good-humoured, and inclined to gout. It seems remarkable that with the production of such men, of whom the country is for the most part proud, we should develop also the individual inclined to consumption. He or she has often a beautiful conformation of body, and a fine intellect, although different from that which I have just described, being more susceptible and refined. It may be that such persons are overbred. They certainly are inclined to die early, but often not before they marry and propagate their kind. If this were not so, it is probable that the sickly race would be kept under, and in a more natural state of society would actually die out—that is, where there were no doctors, for the artificial aid so strenuously given to keep alive the ailing individual tends to preserve its existence. Therefrom arises another large question which must constantly obtrude itself upon the mind of the medical man—whether he is not interfering with the natural laws of the world. I confess I do as others do—shut my eyes to these speculations, and do that duty to my fellow-creatures which is closest before me—attempt to relieve their suffering; yet it cannot be gainsaid that, if the Darwinian doctrines be in any way true, they are applicable to the *genus homo* as well as to any other race of beings, and that we by preserving the puny, the wretched, and deformed, are assisting in the degeneration of the race. Thus, Herbert Spencer has remarked, in reference to the care taken of the miserable, "instead of diminishing suffering, it eventually increases it. It favours the multiplication of those worst fitted for existence, and by consequence hinders the multiplication of those best fitted for existence, leaving, as it does, less room for them. It tends to fill the world with those to whom life will bring most pain, and tends to keep out of it those to whom life will bring most pleasure. It inflicts positive misery and prevents positive happiness." Philosophers have thus, without reference to general zoological laws, seen the importance of cultivating the race by allowing the weakly to drop out; and thus, long ago, it was observed that the Scotch had probably preserved their hardihood on account of the privations which cut off their sickly young, in the same way as among the lower animals it is known that where the conditions of life are hardest there the strongest individuals prevail. We can therefore scarcely shut our eyes to the fact that, if we were able to preserve all those miserable creatures the lives of whom their parents would give a fortune to save, we should be instrumental in causing a deterioration of the race. It is thought that where instinct guides and more natural laws come into operation amongst the lower animals intelligence would serve the same purpose in man. Thus Joseph Adams, who wrote on hereditary disease at the beginning of the century, says: "In a state of nature the race of all gregarious animals is progressively improving, as far as is consistent with the capacity for improvement. The strongest male becomes the *vir gregis*, and consequently the father of most of the offspring. In the ruder state of the human society, or rather in its earlier formation, something of the same kind may prevail, but in a more advanced stage sufficient provision is made by the preference which health and intellect will for the most part produce in either sex." Such prudence, however, is so little to be depended on that it has probably slight avail in the union of the sexes, and this gives rise to such views as are expressed by Mr. Phœbus in "Lothair," when he says: "It is the first duty of a State to attend to the health and frame of the subject. The Spartans understood this; they permitted no marriage the probable consequence of which might be a feeble progeny; they even took measures to secure a vigorous one. The Romans doomed the deformed to immediate destruction. The union of the races concerns the welfare of the commonwealth much too nearly to be entrusted to individual arrangement. The fate of a nation will ultimately depend upon the health and strength of the population. Both France and England should look to this—they have cause. As for our mighty engines of war in the hands of a puny race, it will be the old story of the lower Empire and the Greek fire. Laws should be passed to secure all this, and some day they will be." Some philosophers, when contemplating the scarcity of individual life compared with the myriads of germs which are destroyed, have seen in epidemics a mode by which popu-

lation is kept under, and have a kind of belief that nature is not to be cheated of her victims; for if man should devise the means of escaping from one plague, he will be overcome by another, although it appears under a new guise. We cannot, however, concur in this speculation, disagreeing as we do with philosophers that the sickly are especially selected for removal. I shall presently show that this is not the case. We might, perhaps, endeavour to reconcile these high speculations with the antagonistic interference of the medical man by making it our duty to study more the different temperaments of the race, and endeavouring to discover those causes which tend to develop them and their necessary morbid sequences. We might thus, perchance, arrest the tendency to disease, and the highest office of the medical man would be that of custodian of the public health. This is one, I might say, which he has already voluntarily assumed; and with that exalted view of his functions which I am glad to say animates our profession, he is always found battling with disease at its threshold, and endeavouring to arrest epidemic disease at its source. In a lesser manner he should endeavour in his own professional circle to watch the dispositions and manners of his patient, and thus he may be able to advise and guide the children belonging to some of the temperaments before mentioned into those positions of life which would be most advantageous for them. The doctor is shown the precocious child by the fond parent who discerns nothing but robustness in its mind and body; but he, with the eye of knowledge, sees already the latent tendency to disease. He may be able to destroy the seeds which might afterwards develop, or should he not be able to prevent them striking root, he may arrest their further growth even though it be true that we are born to die; for, as the poet says,

> "As man, perhaps the moment of his breath,
> Receives the lurking principle of death,
> The young disease, which must subdue at length,
> Grows with the growth and strengthens with his strength."

Although an older than Pope had already said:

> "Nascentes morimur finisque ab origine pendet."

I have already said that the body has hereditary tendencies to morbid changes of special kinds rather than to mere accidental diseases, and therefore that the various tissues are liable to their own peculiar degenerations. When we speak, for example, of a gouty man, we imply much more than his liability to an attack of arthritic trouble; he may have or not a *materies morbi* in his blood, but he is liable to temporary and organic derangements of a given kind—such as granular kidney, diseased heart and bloodvessels, articular inflammation, and gravel. In tuberculosis, in like manner, there is a tendency to changes in the epithelium of the cutaneous or mucous surfaces, whether bronchial or intestinal. In the nervous temperament the nervous system is liable to be thrown into unstable equilibrium. But not only in hereditary but in acquired diseases we find that the morbid changes are of a particular kind, and that special organs and tissues are also affected. Thus, in chronic alcoholism we find a tendency to fibrous thickening of the tissues, whether these be in brain, liver, or kidney. We find, again, degenerations of a particular kind in syphilis, and in lardaceous disease, which is sometimes its sequel. From other causes we may find the whole of the bony skeleton diseased, or the lymphatic glands, or the skin. Thus, as before said, it is but a shortsighted view to see special organs only affected by disease, rather than a general morbid condition affecting particular tissues, and occurring under given determinate circumstances. Such views as these have arisen, I believe, from a closer study of the dead; and this has been so little perceived by some, that I have often had to vindicate this department of science to those who have seen no more in it than a curious prying into the body in order to discover the destruction of some great organ or satisfy a curious diagnosis. At one time, it is true, a diseased organ was simply cut to pieces, and the rest of the body not examined; but nowadays, when the process is more searching, I maintain that a much larger view of pathological processes is obtained by a dissection of the dead than could be arrived at by mere observation at the bedside. The narrower views of the ward are expanded in the dead-house. Much larger conceptions are gained both as to the nature of disease and its diagnosis. A simple name for a diseased organ is sufficient for the ward, but the name for a distinct pathological process is required for the dead-house. In a paper published some years ago in order to vindicate this view I took several examples in illustration; and I said, if a person acquainted with healthy anatomy were placed in a room to dissect the dead taken from a hospital he would very soon be able to arrange the cases in classes; he would soon place together, for example, those who had chronic disease of the lungs, those who had died of typhoid fever, and, amongst others, those who had that series of changes recognisable under the name of morbus Brightii, even though there might be some slight accidental differences in all of them. There might be, in a series of beds in a ward, one patient dying of pneumonia, another of laryngitis, another of peritonitis, and a fourth of apoplexy; and it is possible that under these names the cases might be found in the list of the Registrar-General. But should they come into the hands of the necroscopist, as an unbiased dissector, he might find a recent inflammation of the lungs in one, or a clot in the brain of another; but since in all he would discover like chronic changes in the kidneys, heart, arteries, and other organs, he would rightly place them together: he would see that they all had the same pathology. This is sufficient to show how all but valueless are the Registrar-General's returns for pathological purposes. For example, if effusion of blood in the brain is to be classed amongst nervous diseases, nothing but error can result in drawing any conclusion of a scientific character from such reports. What I at that time said should be the aim of the pathologist I repeat now: we should attempt to do for morbid anatomy what Bichat long ago performed for healthy anatomy.

Whilst I am on this subject, I must say a word in reference to another piece of pathology, on which a dissection of the dead can alone throw a light, and one which ere this (I own a personal shame) ought to have been perfected; it is akin to the matter of which we have been just now speaking. If it be true that the morbid changes are found progressing through tissues rather than affecting particular organs, as it were by accident, it follows that these different tissues have their own special morbid changes, and none others. What we ask ourselves, therefore, is this question, What are the morbid changes to which each tissue is liable? Now it is constantly assumed that degenerations may occur, and new growths of all kinds spring up, spontaneously in all parts of the body, but this is certainly not the fact. If we take, for example, the list of diseases framed by the College of Physicians, which is in all your hands, it would seem as if there were certain morbid states, such as inflammation and its consequences, as well as various morbid growths, which may attack in turn every part and tissue of the body. But is this really so? The morbid anatomist ought long ago to have answered the question, and I believe, had my own attention been directed to this subject earlier, the amount of material passing under my hand would have been amply sufficient to have afforded a satisfactory solution to it. I will explain my meaning. Suppuration of the lung is rightly not regarded as a stage of idiopathic pneumonia, consequently if an abscess is found in the lung we know that the seeds of it are brought thither from a distance, and we find the source of the pyæmia in some other part. Cancer, again, when found in the lung, has, in my experience, been secondary to cancer elsewhere, and thus we suppose the seeds of it have been thereto carried (intra-thoracic cancer may be primary, but generally commences in other tissues than those of the lung). Then, again, as regards other classes of tumours, as fibroid, myeloid, osteoid, &c., they are invariably found existing there as secondary deposits. Now if what I say be true, the primary morbid changes in the lungs are strictly limited; the epithelium may produce well-formed cells, as found in pneumonia, and ill-formed ones as met with in the chronic degenerations, but beyond this the lung may be incapable of alteration. The same with other organs. The kidney undergoes certain limited changes, as seen in nephritis, but these do not terminate in suppuration, suppurative inflammation being always secondary; the liver also has certain definite changes beginning either in the cells or the areolar tissue. The stomach has its own special changes, and is incapable of producing many new formations—as, for example, tubercle. It is thus probably very far from being true that abscess, tubercle, cancer, and other growths occur in all parts and tissues of the body; but, on

the other hand, that all these have their favourite or perhaps special seats, and when met with elsewhere must be regarded as secondary formations. It is remarkable how surgeons have always tacitly acknowledged this fact, for when meeting with a malignant tumour on the surface of the body they have seldom hesitated to operate from the fear of any internal complication, since their experience has taught them that the growth on the surface has been primary. On the other hand, the teaching of the surgeon with regard to inflammation and its consequence as occurring on the skin having been made applicable to the internal organs, has been the cause of a long series of pathological errors. A knowledge therefore of the special changes to which each tissue is liable is vastly important; the materials for furnishing us with the knowledge are always at hand, and the possession of it must be near.

I must say yet one word more in favour of the study of morbid anatomy—its necessary aid to diagnosis. No amount of clinical observation or acumen could enable the medical man to form an opinion of the nature of many cases without an acquaintance with the diseases which post-mortem examinations alone can reveal. This implies that symptoms do not carry with them the interpretation of their cause; that symptoms are not, in fact, pathognomonic. The time has not yet arrived to enable us to associate symptoms with certain definite lesions, and we must be content at present to act on the doctrine of probabilities. When a cancer in the chest will produce the same symptoms as an aneurism, or an arachnitis the same cerebral symptoms as a diseased kidney, our diagnosis must rest on other considerations than symptomatology, and we are led to guess in one direction rather than another from extraneous facts. A slight sore-throat in a boy at school where the epidemic of scarlatina exists, suggests this disease, not from the symptoms, but from a knowledge of its presence in the house. Diagnosis being thus made by considering the probabilities in favour of the existence of one disease rather than another, in order to form a judgment a thorough acquaintance with all diseases is necessary, and the man who has the largest knowledge of morbid states is he who will most likely arrive at the surest conclusion. It is clear then that mere acumen at the bedside is not sufficient; the quick eye and ear may discern all that can possibly be learned, and yet the interpretation be wanting, simply because the observer has not had a sufficiently extensive knowledge of all the phases of disease by which he can explain the symptoms. This fact I have constantly observed. Therefore, if it be true, as I think it undoubtedly is, that that man forms the best opinion of a case who has the widest experience of disease, it follows that not only is a study of the living necessary to diagnosis, but also that of the dead. Diagnosis is made up of two parts—the symptoms and their interpretation. The first is gained by clinical observation, the second by a knowledge of all the diseases to which the human body is liable. We have to try to discover all the ills, functional and organic, to which flesh is heir; and we then, in the living subject, watch the symptoms which are associated with them. In any given case we first take the symptoms and ask what they imply; the answer should be so much and no more. Secondly, we ask what are the probabilities in favour of their connexion with one particular disease rather than another. The answer is the diagnosis. A study, then, of morbid anatomy, by making us acquainted more exclusively with diseased action, is necessary for accurate diagnosis.

I have said that, with the exception of sudden attacks of inflammation in the chest arising from vicissitudes of climate, nearly all the morbid changes found in the body have been insidious and slow. These are the diseases going on within, due to causes ever operating upon us quietly, or inherited from our fathers. There is, however, an altogether different class of affections, arising from causes which attack us from without. To these we are all liable; they are the specific contagious and epidemic disorders. The difference between them appears to be marked, and their peculiarity arises rather from the nature of the external agent than from the patient or recipient. To many minds the phenomena attached to the development of each of these diseases are so uniform that they see in every individual example the offspring of a common stock; and they are strengthened in their view by the fact that the virus taken from a particular victim will grow and spread like a seed from its parent plant. They believe, therefore, in the possibility of stamping out contagious diseases, just as they might exterminate a particular animal or tree. There are other persons, however, who, whilst believing in the specific nature of these diseases, yet hold that they can be spontaneously generated—as, for example, typhus, from the crowding together of many people; typhoid, from decomposing vegetable matters; scarlatina, from decomposing blood; and, according to Miss Nightingale, small-pox, under various conditions of foul air. There are, however, yet others who, believing that specific causes are in operation, yet do not hold that they are necessarily propagated or generated in the animal body, but have an independent existence outside the human frame in the form of vegetable germs: for example, the element of cholera is, according to them, a rice fungus, that of measles a fungus of another species, and the virus of typhoid a third. If the analogy at all holds good between the phenomena of these diseases and those of animal or vegetable life, the conclusions would rather be in favour of each particular example of the disease having its origin in a parent source; and thus, as in the case of every weed in our garden, we assume that a seed has been planted in the soil, and leave it to others to prove its spontaneous growth, so, from analogy of reasoning, in the case of specific contagious diseases, we would leave the *onus probandi* to those who deny the more obvious explanation, and seek for another in the doctrine of spontaneous generation. Whatever may be the view we take, if we regard these diseases as in any way likely to have been produced by specific organic particles rapidly growing in a favourable soil, we cannot regard with any satisfaction the doctrine of elimination. According to the generally received views, the virus, as that of small-pox, being inserted into the system, begins to grow and propagate in the soil until the process of development is complete, it may be to the actual destruction of the soil in which it has flourished. I cannot see anything like elimination in this, but rather a rapid and active growth destructive in its progress. If the soil be not fitted for it, the germ may wither, but the abortion seems by no means due to any eliminative powers in correspondence to the youth or strength of the patient, but to an entirely different class of circumstances. I confess, if I knew the method of killing the virus at its source, or staying its growth, I should be inclined to do so rather than foster its development; and, if it be true that these specific diseases are due to the introduction of an organism into the blood, then all must agree that this treatment is rational. A ringworm grows and grows wherever the soil is propitious; the itch insect spreads over the body; and the hydatid often swells until its host is destroyed. Cancer-cells divide and propagate until they have killed their victim which has supplied them with nourishment, and the germs of small-pox will do the same. In none of these cases do I see any special power possessed by the body which can be called eliminative. If the cause, then, of specific diseases be due to germs, and these should be shown, as in the supposed case of cholera, to be nothing but a vegetable fungus, the analogy between such diseases and the parasitic, as shown by the result, is complete. The specific diseases, then, afford another example of what is witnessed throughout all nature—that the life of one is dependent on the destruction of another. There is a constant struggle for existence amongst all living things in creation; they are all living on others whilst endeavouring to protect themselves, and man is not an exception.

"While man exclaims, 'See all things for my use,'
'See man for mine,' replies a pampered goose."

The whole history of a living thing is not told unless it be shown what kind of prey it is to others. The naturalist, in describing the sheep, shows its digestive apparatus and appropriate food, and finally how it becomes meat for man; or a fish in all its anatomical and physiological details, and then how it becomes the prey of some larger creature. The naturalist, too, in describing the hydatid from a hydatid point of view, would show its means of sustenance, and how some species rejoiced to feed on the liver of man, or how the trichophyton tonsurans found a favourable soil in the human head. I do not see any special power in the human body to get rid of these parasites; all I see is, an open war being waged between the guest and the host as to the mastery; each is trying to thrive, and, consequently, destroys the other. Would not the ivy, in writing its life,

speak of its claspers by which it embraces the elm; and would not the elm speak of its destruction by the ivy? Would not the pretty dodder speak lovingly of the gorse, which it nevertheless so often chokes. I think the philosophy of the whole matter is found in "Hamlet" when the Prince says to the King:—"We fat all creatures else to fat us, and we fat ourselves for maggots. Your fat king and your lean beggar is but variable service, two dishes to one table. Alas! alas! a man may fish with the worm that hath eat of a king, and eat of the fish that hath fed of that worm!—What dost thou mean by this? Nothing, but to show you how a king may go a progress through the guts of a beggar." In the case of parasites, it is clear that we have no inherent power to get rid of them, and all we can attempt to do is to destroy them by violence. If there be any truth, therefore, in the germ theory of contagious diseases, the treatment of them is clear—war to the knife. The analogy would not be so close if it were true that the weakly and the sick first became a prey to epidemic disease. This has often been stated by writers on social science, when conformable to their views; but facts are antagonistic to them. I have always taught the opposite, and can now speak with confidence, since Dr. Walshe, in a lecture lately published, has expressed the same opinion. Many years ago, when reporting cases of fever, I said that I had never found any organic disease in those who had died of it, for it was not until typhus had broken out in the hospital, and after many years' experience, that I had an opportunity of seeing such a thing as a diseased heart in a person dead of fever. I think all members will bear me out in saying that it is amongst the youthful and vigorous that small-pox, scarlatina, &c., grow and prevail. From their own germ point of view these diseases delight in the young and healthy; and, in the case of artificial poisons, or those introduced into the system by accident, I see no effort of nature to get rid of them. The kidney, like every other organ, has its own peculiar function, and takes cognisance of certain materials in the blood and eliminates them; but it often seems to have no power to eradicate them from the system, for, in the case of lead-poisoning, the blood may throw them down in every tissue of the body, and there leave them.

Whilst on the subject of elimination, and the supposed efforts of nature to get rid of deleterious matters from the system, it might naturally be conjectured that, with the rejection of this doctrine, I should discard all such ideas as are conveyed in the terms, "conservative processes," and the "*vis medicatrix naturæ*." The supposition is right; and I would more fully have dwelt on the subject, had not Dr. Bristowe so admirably treated it in the Croonian lectures lately delivered at the Royal College of Physicians. He has put it very clearly before us, how certain physiological laws exist which we can watch like other laws in nature, and see how they always act in certain definite methods; further than this we have no right to go. We have no right to select a particular instance of a natural process, and declare that a conservative action is in operation, any more than choose another case and call the action destructive. The forces of nature go blindly on, heedless of results, and cannot be spoken of as if they were half-intelligent powers with benevolent or baneful objects in view. Such notions would show that we had not reached the true scientific method, but, according to Comte, were still in the metaphysical stage of thought, when external agencies were supposed to be ruling the world. If we once admit them into our nomenclature we are led into countless contradictions. If, instead of regarding the hypertrophy of the ventricle, in the case of obstruction of the bloodvessels, as a result of a simple physiological law, we speak of it as a conservative process, we are immediately reminded of the wrongfulness of the expression, when we see this same conservative process causing the rupture of a vessel in the brain, and killing the proprietor; or if we choose to call the blocking up of the bloodvessels as they pass through a cavity in the lung conservative, how are we to name the same process when it tends to the mortification of an organ, and perhaps the death of the patient? These laws are natural laws, and often not even strictly physiological; for where is the difference between the case of enlargement of the superficial veins when the vena cava is obstructed, and that of dirty water finding its way by the gutters when the main sewer is choked. If a conservative power presides in the one case, does it not in the other? I may be allowed to say that I do not take up this subject as the question of the hour, but am giving you the result of my matured thoughts, and such as I have always taught. I have always regarded such terms as "conservative," "elimination of disease," "*vis medicatrix*," as purely metaphysical, and having no place in the vocabulary of medicine. This last term I discarded from my earliest student days, for I well remember when a surgical teacher used the expression with reference to a case of fractured skull, and when, notwithstanding that curative nature was to step in and mend it, the patient was seen on the post-mortem table a few days afterwards with inflammation of the brain, I remarked, in terms which were considered almost sacrilegious, that the man would have lived with a crack in his skull if nature's *vis medicatrix* had not stepped in and killed him. I am convinced that when we occupy our minds with metaphysical entities, and talk of conservative powers of nature, vital principles, and such like vague terms, we are hindering scientific discovery, by implying that there are agencies at work behind the phenomena which we witness. I confess I don't know the intentions of nature, and whether, when a man is purged in cholera, nature is endeavouring to cure him or to kill him. The doctor says the former, the social statician says the latter. I remember, too, we used to be told that not only disease itself, but even an accident, might contain within itself the elements of repair; for example, a thorn which sticks in the skin would set up an inflammation and abscess, and thus be discharged. The very source of mischief contained the cure. A very striking and ridiculous rebuff to this doctrine occurred some years ago at my hospital, in the case of a young man who, having had too much to drink, fell off a plank whilst crossing to his ship, and was nigh being drowned. On his recovery he was lectured on the serious consequences of spirit-drinking, whereat he replied that, on the contrary, he had been informed that it was nothing but the brandy in his stomach which had restored him to life.

(To be concluded.)

THE

ADDRESS IN SURGERY.

Delivered before the Annual Meeting of the British Medical Association, at Birmingham, in August, 1872.

BY OLIVER PEMBERTON,

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IT has been customary to leave to individual selection the subject of this annual address. In the exercise of this unfettered discretion, some of my predecessors have devoted themselves to the consideration of a particular subject on which they were entitled—either from the circumstance of original research, or the advantage of practical knowledge—to speak with authority; whilst others have directed their attention to reviewing the progress of surgery, with all its bearings on the science and art of their time. It may be that those who followed the latter course placed themselves more in harmony with the original plan of this undertaking; but it must not be forgotten that during the number of years that have elapsed since this Association was founded the entire scope and character of medical literature has been changed. In these days the scientific discoveries of Europe, Asia, and America are, as it were, on our very tables, and within speedy reach of us all; surely it would seem then but a repetition of an old story to arrange them in order before you. One of the happiest events, however, connected with these meetings provides an escape from any difficulty in the selection, from any sameness in the character of the discourse. They are held, in turn, in England, Scotland, and Ireland. The great cities of these kingdoms are so many centres of surgical study, having features marked and distinctive, created no less by local than by

personal circumstances. For I take it that it will be conceded that whilst the great principles are wellnigh everywhere the same, no art differs by its exercise so widely, whether in force, completeness, or success, as ours does, in varying hands, or when practised in places removed by distance from each other. Hence whoever happens to be designated to fulfil this most honourable task may be expected to possess some special experiences which his opportunities have afforded him in the place of assemblage—some illustrations of vexed questions in surgical treatment that may arouse interest in an audience even as critical and accomplished as that I have before me at this moment. In this hope, and with a full knowledge of how illustrious are the names that have preceded me in accomplishing this task, I ask your indulgent consideration whilst I endeavour to justify the confidence reposed in me by the Council of this Association and by my professional brethren, as I submit to your judgment the fruits of personal observation connected with one or more of the chief maladies that demand the skill of the surgeon.

To solicit your attention to some moot points connected with the treatment of aneurism, is sufficiently appropriate in itself, if we only consider the increasing interest that at present surrounds it, and the impetus that must be given to its study by the exhaustive nature of the lectures now in course of delivery before the College, by Prof. Holmes; but I cannot forget that we are assembled in Birmingham, where Freer and Hodgson lived and wrote—illustrious pair! well fitted to be teacher and pupil. I cannot forget that George Freer* was the first to tie successfully the external iliac artery, and that Joseph Hodgson† paved the way to a clearer perception of the pathology of arteries and veins than had existed since the days of Hunter. So it is an appropriate tribute to their labours, that here, in this place, I should have the subject of aneurism foremost in my mind.

Professor Lister's improvement in the Hunterian operation, by which the permanent closure of the artery at the spot tied can be ensured, without dividing the coats of the vessel, at once effects a complete change in some of the most important conclusions that for long years have guided us in our treatment of aneurism. One of the greatest dangers attending the Hunterian operation has hitherto been considered to be the application of the ligature immediately beyond any considerable branch of an artery. This impression has deterred surgeons from applying a ligature to that portion of the artery which otherwise would have seemed to them best adapted for the purpose. That an abiding coagulum will form under certain circumstances in the vicinity of almost any number of branches on the proximal side of a ligature, I am perfectly satisfied; but the attainment of this success in many cases depends on a fact which it is almost impossible for the surgeon to estimate beforehand—that is, the facility with which the blood will coagulate or deposit its fibrin in any particular instance. In the case I am about to relate, the existence of this tendency, in a much greater degree than usual, was the main cause of the success of the operation.

In June, 1870, I saw F——, aged sixty; strumous from childhood, and highly intellectual. There was an aneurism, three months old, of the left superficial femoral, about five inches below Poupart's ligament. There were marked indications of general arterial disease, and, during the past twelve months, of semi-paralytic seizures, evidently due to temporary hindrance to the cerebral circulation. Pressure failed and was abandoned at the end of three months. I then advised ligature, the aneurism rapidly increasing. On October 12th, the aneurism having "leaked" the previous day, in the presence and with the sanction of Sir James Paget, I tied the common femoral with a hempen ligature. Fearing, from the diseased state of his arteries, the worst results, as the ligature might be thrown off, the wound was left completely open, being simply covered for protection. In forty days the ligature came away, and the patient died a week afterwards, from causes wholly removed from the aneurism. There was no hæmorrhage, but gangrene may be said to have commenced in one toe. When I came to dissect the arteries, I found the circumflex ilii, epigastric, and the profunda femoris given off together, that is at opposite points of a line drawn round the main trunk, a little above Poupart's ligament, the point of ligature being five-eighths of an inch below these vessels, the part of artery intervening being firmly plugged. The profunda was pervious for some distance, and then plugged. There were plugs of former date in the right and left carotids and in the left axillary arteries. The aneurismal sac was filled by broken-down clot and fluid blood, and would have suppurated.

Now, I cannot consider this case as any contribution to the surgery of the common femoral, though I hoped and expected it would be so, for I think hardly any doubt can be entertained but that the patient would have died from secondary hæmorrhage on the separation of the ligature, had it not been for the unusual tendency of the blood to coagulate, for nothing could well be closer than those three vessels were to its site. At the same time I think, with Porter and Macnamara,* that the exclusion of the common femoral, on account of the assumed liability to secondary hæmorrhage and gangrene that follows its ligation, is not founded on any solid basis. It was selected in this instance in preference to the external iliac, and I should so select it again, of course on the presumption that I was going to place my ligature in the vicinity only of such branches as the epigastric and circumflex ilii, in the presence of which I feel satisfied that an adequate coagulum may under ordinarily favourable circumstances be reasonably expected to form. It is rather here then I draw your particular attention to this feature of coagulation; for I ask myself this question: if I had tied the artery, complicated as its irregularity was in this instance, with a hempen ligature, and there had not existed this tendency, would it have held? Assuredly not. This same tendency to coagulation, as manifested in the collateral vessels, whilst it preserved the patient's life, would, I may observe, have subsequently caused his death by gangrene. Further, it appears to me that in proportion as the coats of the arteries deviate from their natural state, and as the general vital conditions are lowered, so is this tendency increased.

Surgically speaking, then, this very circumstance of diseased arteries and tendency to blood coagulation, in some cases, establishes a reason why the surgeon should not refrain from operating where the diseased condition of the coats of the arteries alone would lead him to abstain from interference. And it is clearly of the utmost importance to increase this tendency to the coagulation of the blood as much as possible, after all operations for aneurism, by good diet, and by the absence of all depressing remedial agents.

Apart from this question of coagulation, I feel warranted in expressing my conviction that too much stress has been laid on the disturbing influence of a large branch or branches taking origin close to the part of the vessel tied. If, however, we are to believe the teaching of Prof. Lister,† it will be of little moment in the future whether a plug form on either the proximal or distal side of the ligature at all, so long as the "prepared catgut" ensures permanent closure of the vessel at the spot tied, without severance of the coats, and consequently without liability to secondary hæmorrhage. From what I have seen since this case came under my notice, I am glad, before such a meeting, to be able to express my unbounded admiration of and confidence in the use of the animal ligature as placed before us by Professor Lister. If the so-called "antiseptic system" has effected no more for surgery than to give us the means of effectually closing an artery without cutting it through and without suppuration, it has in doing this placed the crowning glory on the treatment of aneurism, for which it has waited since the time of Hunter. For forty days I watched patiently for the detachment of this ligature with an open wound to escape deep-seated suppuration. I watched twenty-one days in a case last May, in which I tied the external iliac for aneurism at Poupart's ligament; and though the case did perfectly well, the suppuration about the track of the hempen cord gave me the greatest anxiety. Last August, Mr. Lund,‡ at Manchester, tied the same artery with a catgut ligature. No pus was secreted; the wound healed on the eighth day!

Professor Lister remarks that ligature of the innominate must yet prove, with these means at command, "a very safe procedure." Yes; but always, I presume, provided that the

* 4th October, 1806.
† A Treatise on the Diseases of Arteries and Veins. London, 1915.

* On Ligature of Common Femoral. Brit. Med. Journ., ii. 1867, p. 285.
† Observations on Ligature of Arteries. Edinburgh, 1869.
‡ THE LANCET, Aug. 5th, 1871.

coats of the artery are healthy where the ligature is applied; and on this we await further evidence; given this, and I feel inclined to echo the assurance.

I shall now endeavour to show that the principles of treatment in the methods of flexion, compression of the sac and manipulation, are one and the same.

The method of flexion can only be applicable to certain arteries. All that it is needful to do is to keep the limb flexed, not continuously, but to such an extent as to alter the relations between the orifices of ingress and egress, and the fibrinous laminæ of the sac. Some of these laminæ become, as it were, dislocated, and protrude more or less into the stream when a fresh deposit of fibrin occurs, and so the cure is gradually effected. The exercise of pressure on the artery above the angle of flexion appears to me useless. What we want is a stream of blood flowing into the aneurism; that it should be more or less retarded there, and that there should be present something in the nature of a foreign body; for example, the fibrinous laminæ, on which blood would coagulate and deposit its fibrin. This retardation of the blood in the sac can be effected by a gentle compression of the artery on the distal side of the aneurism; as I strongly hold that what we want in these cases is a deposition of fibrin rather than a coagulation of blood. For surely the slow deposition, layer after layer, of solid fibrin in the sac, until the filling-in is complete, is a surer guarantee against subsequent mishaps, than if it were closed by a mass of suddenly coagulated blood. I place before you the case of K——, a Lascar, aged twenty-two, who came under my care on May 10th, 1859, having an aneurism of the left popliteal artery of four months' duration. Flexion was maintained for seventy-two hours, with the result of the aneurism ceasing to pulsate, and becoming solid in eleven. Compression during the first forty-eight hours, of moderate character, was also made by Weiss's instrument on the artery in Scarpa's space. I believe that this was the first instance on record in which the combination of compression and flexion was made use of; and the case was published very fully at the time in THE LANCET.* But I feel satisfied now, in reviewing it, that pressure below the sac would have proved more advantageous than above.

If one wanted convincing of the very slight means whereby important curative changes may be brought about in aneurismal sacs, I have but to ask a consideration of the facts connected with the following cure, in thirty-nine hours, of a popliteal aneurism. M——, twenty-eight, a porter, came under my care on the 17th January, 1871, with an aneurism of the right popliteal artery five months old. On the 22nd I had shown the patient how I proposed to treat him—by flexion—at the same time bending his leg, and arresting the circulation through the sac. It is very likely that the patient, in the afternoon, subsequent to my visit, imitated my proceeding, as he seemed very much struck by what I had done. Be this, however, as it may, I only bent the limb once, and fingered the sac lightly, and told him to keep quiet. At 2 A.M. on the 23rd he was seized with sudden aching, shooting, gnawing pain in the neighbourhood of the aneurism, extending down the calf of the leg as far as the ankle, and upwards as far as the crest of the ilium. The pain continued very intense for some hours, during which he had no sleep. He had severe nausea, but no vomiting, and was chilly. The pulsation in the aneurism seemed unchanged, but he remained poorly all the day.—24th: Slept until 3 A.M., when he awoke and found pulsation had ceased in the aneurism. The limb was cold below the knee, and œdematous, and though the pain of yesterday was better it was not gone. On examining the aneurism it felt hard and was free from pulsation. He was subsequently discharged cured.

I am inclined to think that coagulation commenced here after the first flexion—that the deposit of coagulum, after a few hours, increased rapidly, as indicated by pain which culminated in intensity as the sac was solidified. There may have been a clot detached which plugged up either the proximal or the distal orifice—if so, it took place at the final exacerbation of pain, when pulsation ceased—for I certainly judged the contents, when I bent the limb, to be fluid.

The verification of the intense pain that occurs, when the blood current is forced suddenly into narrow collaterals, or at the supreme moment when the contents of the sac are solidified, was here very conspicuous.

To ask, for a few minutes, the judgment of a skilled assembly, such as this, on the probability of applying pressure with success to the actual sac of an aneurism, would appear to be returning to the pre-Hunterian period; and yet had the theory by which aneurisms are cured now been fully comprehended then, I can have little doubt but that the necessary deposition of fibrin would have been brought about, in many instances, that otherwise so signally failed.

I entertain the opinion that compression of the sac ought to be used more frequently than it is now. The principle of this proceeding is exactly the same as flexion; we want simply to alter the relations of the laminated fibrin to the cavity of the aneurism, so as to bring about a further deposition of fibrin on the projecting surfaces of any of the displaced laminæ. The pressure need not be continuous. It should be very gentle. It need not even be distributed uniformly. But it must ever be borne in mind, that if it be carried to such an extent as to empty the sac and to press one wall against the other, then a cure cannot occur. The very conditions under which a cure is possible are here ignored. Blood must pass through the sac. It must not pass through too rapidly; and I now think that this would be facilitated by gentle pressure being made on the artery below the aneurism.

In March, 1857, I visited D——, aged sixty-seven, an active sportsman and farmer. He had an aneurism, a month old, of the right external iliac artery, just above Poupart's ligament. It was somewhat fusiform in shape, measuring three inches in length, by one and a half in breadth. There was no bruit. I failed to arrest the circulation through the aneurism by making pressure on the artery above, but I found I could greatly limit the current by making pressure on the sac itself. The question being raised of an operation, I advised, that as a ligature could hardly be applied to a sound artery other than in the course of the common iliac, and bearing in mind the vicinity of the bifurcation, no operation should now be performed, but that Dr. Carte's compressor, under careful management, should be applied to the sac itself. Accordingly, under my directions, two senior students* remained with the patient. The treatment extended over a period of six weeks. During the first fortnight little good was effected; then for eight consecutive days pressure was applied, on an average of seven and a half hours per day. The pressure effectually retarded the circulation—nothing more—and was never applied for more than three or four hours at a time. Consequently, the patient was not wearied, and had undisturbed nights. There was now a complete interval of nine days, during which no pressure was applied, the aneurism being firmer and with less pulsation, and he was allowed to move about in his room. Then followed nine days of treatment, averaging six hours and a half per day. From this time the aneurism ceased to pulsate, and the patient gradually resumed his ordinary avocations. He is yet living, in his eighty-third year, active and well. In December last,† the remains of the aneurism were represented by an indurated enlargement, about the size of a chesnut.

I venture to think that even Dr. Macnamara will give me credit for having studied O'Bryen Bellingham‡ to some purpose, who, happily for my patient, published his observations in the January of this very year. Reduce the force and volume of the blood-current by any carefully considered measures, and we follow out the reasoning of Brasdor and Wardrop in the distal ligature; a reasoning which is rendering amenable to treatment internal aneurisms hitherto beyond surgery; a reasoning that has the authority of nature's own proceedings to recommend it, from the fact that it is more or less identical with the mode in which the so-called spontaneous cures are brought about. I own this case—unique as it is in this situation—has always been in my mind, on the discovery of any fresh instance of aneurism. It serves to confirm the soundness of the remark, that in proportion as the true method of curing aneurisms has been fully understood—that is, the gradual lessening of the blood-current to final and complete coagulation in the sac—

* Vol. ii., 1859, p. 232.

* The late Mr. Dennis Moore, of Walsall, and Dr. Neal, of Birmingham.
† Letter from Mr. Earlam, of Abbotts Bromley.
‡ Observations on Aneurism. London. 1847.

so have the means whereby this has been brought about become simpler and more safe.

The occurrence of these cases led me to the attentive consideration of the facts, as they are at present before us, connected with the purposed displacement of the contents of the sac of an aneurism, in the hope of plugging up either outlet; and the case of M—— happened when a subclavian aneurism* was under my notice in another ward, about the treatment of which I was—to say the least of it—previously undecided. It seemed to me so impossible to limit the degree of force, short of extreme hazard, in the method originated by our distinguished *confrère*, Sir William Fergusson;† and I was not reassured by perusing the cases he has recorded, or those of Mr. Pollock.‡

I cannot but regard the treatment by manipulation to be based on exactly similar principles to those on which the methods I have just alluded to are founded. No forcible pressure to detach fibrinous laminæ, in my judgment, ought to be used; as the result would be the almost certain separation of small portions of the clots, which would be carried into the circulation, and would eventually plug the smaller vessels, causing symptoms according to the functions of the parts which the plugged vessels supply. For I must own I have not been able to see how these clots could be located at either outlet to be fixed by arrangement, as it were, at a spot where it is simply impossible to be assured that they could effect a lodgment. All that is necessary is that the aneurism should be gently manipulated, so that the laminæ of fibrin in its interior should occupy a different position to that which they had previously held with reference to the two orifices of the sac; and in order that the blood should not be allowed to pass out of the sac too freely, if I have an opportunity, I shall endeavour to compress the distal artery in accordance with the principles I have been advocating.

B——, aged thirty-two, admitted into hospital Oct. 20th, 1870, a former Life-guardsman, with aneurism of three months' duration in the second and third parts of the right subclavian; it was as large as a hen's egg, and was accompanied by bruit and by dilatation of the axillary. He stayed a month, during which time iodide of potassium was freely given; and then, frightened at the idea of an operation, suddenly left. On Jan. 20th, 1871, he was admitted again; the aneurism seemed firmer, giving me the impression that fibrin had been deposited. From Feb. 10th to 14th the sac was manipulated night and morning for a few minutes; the proceeding was one of the utmost gentleness and regularity, and consisted in making pressure with the thumb and finger so as to slightly approximate its fibrinous walls, and, whilst thus limiting the circulation, probably rendering the clot surface somewhat irregular and promoting the tendency to deposit already commenced. On the 11th the pulsation was much weaker, and on the 14th it ceased altogether. There was no brachial or radial pulse below the aneurism; and he complained of pain extending downwards from the aneurism to the iliac region; this was constant, severe, and of a numbing character. There was no constitutional disturbance. During the following days the collateral circulation about the clavicle and shoulder developed itself; and especially noticeable was a large transversalis colli crossing over the aneurismal sac. On April 17th he left for the sanatorium, the sac being small and hard. Since this time he has pursued his business as a hawker, travelling all over England. I examined him, and so did my colleagues, as recently as the 19th of June, sixteen months after the cure of the aneurism, and I noted the following facts: "A little induration marks the site of the aneurism; the axillary artery and upper part of the brachial can be felt, cord-like, as far as the insertion of the coraco-brachialis—here pulsation begins, and can be felt feebly in the radial at the wrist. He is himself excessively thin, but well and hearty."

The absence in this case of any symptoms of paralysis during the four days in which the sac was manipulated justifies the inference that no clot at least passed into the cerebral circulation, and I entertain myself the conviction that the cure was brought about by a steady process of lamination, rather than by the detachment of a clot, happy enough to fit into either orifice of the aneurism.

I have now to call your attention to what I believe to be a not uncommon result of the cure of aneurism, after it has been effected for some time; I mean the formation of varicose aneurism or aneurismal varix. I shall first relate two cases.

In 1844, my late colleague, Mr. Amphlett, tied the superficial femoral for an aneurism of the artery as it enters Hunter's canal. The patient was forty-one, and a soldier. There was nothing unusual at the operation, and the ligature was thrown off on the nineteenth day. Ten days subsequently there was arterial hæmorrhage from the seat of ligature. This recurred again in ten days, and a third time in fourteen. Pressure on the arch was used, and the patient recovered. He remained well for upwards of three years, when a tumour formed at the seat of operation, which was evidently an arterio-venous aneurism. With this coming under the care of my colleague, Mr. Baker (our President), he died from a drunken pleurisy, just five years from the date of the operation. I was fortunate in being able to dissect his vessels. The femoral artery had formed an aneurism at the seat of the operation as large as a hen's egg, and the femoral vein communicated with the artery by a large opening. The former aneurism was cured, and the artery between it and the seat of ligature was impervious.

M——, aged fifty, a soldier, syphilitic and intemperate, became the subject of an aneurism of the upper part of the right posterior tibial artery. Pressure was made over the artery on the pubic arch for three weeks; on it, below, for nine months. The aneurism was cured. Ten months afterwards an arterio-venous communication formed at the chief seat of pressure, and the patient died in about a year and eight months subsequently. I had the opportunity of minutely examining his body, and I came to the conclusion that pressure on the pubes induced varix in the femoral vein, at the situation of the saphenous opening; that this subsequently sustaining pressure enlarged and became adherent to the artery, and, finally, by a succession of changes, readily comprehended between a diseased artery and a diseased vein, adherent to each other, ended in establishing an aneurismal varix.

At the time when I published this case, which was done at considerable length in the Transactions of the Medico-Chirurgical Society for the year 1861, I attributed the results merely to the injurious effects of long-continued instrumental pressure, producing morbid changes around and between the contiguous vein and artery; and I was inclined to quarrel with Bellingham's* remark, "That no morbid change of any kind takes place in the artery or vein at the site of instrumental compression." Subsequent reflection, however, and an attentive study of the preparations, have led me to seek a different explanation. Thus, in consequence of the diseased conditions and diminished elasticity of the arterial walls, which almost constantly exist in all arteries above the seat of an aneurism, the velocity of the blood movement is considerably retarded. It is evident that this retardation must be materially increased by the obstruction at the seat of ligature, or the seat of long-continued instrumental compression. The immediate consequence of this retarded velocity is an increase in lateral pressure. This dilates the diseased coats of the artery into an aneurism, which—by the usual processes of pressure—absorption and disintegration opens into an adjoining vein. Sometimes, as in the second case I have adduced, the opening is effected directly into the vein without the previous formation of an aneurism—and the vein subsequently becomes varicose by the passage of arterial blood into it.

It is now with regret that I must leave this subject and pass on to another.

(To be concluded.)

* Pollock records three successful cases of direct compression to subclavian aneurisms.—St. George's Hospital Reports, vol. xvi., p. 63.
† Medico-Chirurgical Transactions, vol. xl., 1857.
‡ Op. cit., p. 45.

* Medico-Chirurgical Transactions, p. 12.

M. LABOULBENE, of Paris, has been enabled by means of an aspiring pump, to investigate the character of the liquid contained in the knee of a patient suffering from blennorrhagic arthritis. The liquid was withdrawn *in vacuo*, and therefore quite pure and undisturbed. It presented a deep yellow tint, and contained numerous purulent white globules. It was twice inoculated in the eye of a rabbit without result.

AN ADDRESS
ON
MEDICAL PSYCHOLOGY.

Delivered at the Opening of the Psychological Section of the British Medical Association.

BY HENRY MAUDSLEY, M.D., F.R.C.P.,
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IN beginning the work of this Section, over which I have the honour to preside, I shall confine myself to a few introductory remarks of a general character, leaving to those who will come after me the more exact scientific work of which we have fair promise in the papers that are to be read. The occasion seems fitting to take a short survey of the position of medical psychology in relation to certain important questions of the day, and to consider the bearing which its progress must eventually have upon them. Permit me, then, to ask you, first, to look back a little way at what medical psychology was, in order the better to realise what it is, and, if possible, to forecast something of the character of its future work. A glance at the past will show how great a step forward has been made, and may yield some reason for congratulation; a glance at the present, showing, as it cannot fail to do, how small a proportion the gains bear to what remains to be acquired, will prove that as yet we have rather discovered the right path than made much way on it—that we are, in truth, only on the threshold of the history of medical psychology as a science.

One of the saddest chapters in human history is that which describes the cruel manner in which the insane were treated in times past. Notwithstanding that it is happily a thing of the past, it will not be without profit to inquire from what causes the barbarous usage sprang: for it was not common to all nations and all times; on the contrary, it had its birth in the ignorance and superstition of the dark ages of Christian Europe. Whatever may have been thought of madness among the peoples who preceded the ancient Greeks—and there is evidence that the Egyptians adopted a singularly enlightened and humane treatment,—it is certain that the Greeks had comparatively sound theories of the nature of insanity as a disease to be cured by medical and moral means, and adopted principles of treatment in conformity with those theories. Their dramatic poets, it is true, present terrible pictures of madmen pursued by the anger of the gods; but these were poetical representations, which must not be taken as a measure of the best knowledge of the time. Then, as now, and indeed as ever in the history of mankind, the true thinkers were emancipated from the fables and superstitions of the vulgar: the just measure of Greek intellect must be sought in the psychology of Plato, in the science of Aristotle, and in the medical doctrines of Hippocrates. This eminent physician and philosopher expressly repudiates the notion that one disease is of more divine origin than another. After saying that the Scythians ascribe the cause of certain disorders to God, he goes on to give his own opinion that these and all other disorders are neither more nor less of divine origin, and no one of them more divine or more human than another; that each has its own physical nature, and that none is produced without or apart from its nature. In what he says of the psychical symptoms of various diseases of the body he evinces such enlarged views of the scope of medical observation and practice as are not often evinced at the present day; and the few observations in his works respecting the symptoms of delirium "evidence that clear and correct view of disease which has made this first observer a model to all succeeding times." He directs attention to such facts of observation as the physical insensibility of the insane, the appearance of mental diseases in the spring, the occurrence of disorder of the intellect after a continuance of fear and grief, the union of melancholy and epilepsy, the critical importance of hæmorrhoidal discharges in mania, the difficulty of curing madness which commences after the age of forty, and the like. And as there was no superstition in these doctrines, so there was no barbarism in his treatment, which was medical, and consisted principally in evacuation by the use of hellebore. But moral treatment was not unknown among the Greeks; for Asclepiades, who seems to have been the real founder of a psychical mode of cure, made use of love, wine, music, employment, and special means to attract the attention and exercise the memory. He recommended that bodily restraint should be avoided as much as possible, and that none but the most dangerous should be confined by bonds. Without going further into particulars, enough has been said to show that the Greeks had acquired accurate notions of madness as a disease, which was to be cured by appropriate medical and moral treatment.

How came it to pass that these enlightened views ever fell into oblivion? The question is really only a part of the larger question, how it come to pass that the high æsthetic culture and brilliant intellectual development of the Grecian era, which might have seemed possessions of mankind for ever, were lost in the darkness and barbarism of the middle ages. To trace the causes of this so sad decline would be far beyond my present purpose; suffice the fact that philosophy, which had mounted so high, was for a time sunk so low beneath the waves of superstition and ignorance, that it might well have never been in existence. And when at last a revival of learning took place, things were little better; empty scholastic subtleties and metaphysical mysticism engaged the whole attention of men, who rivalled one another in verbal disputations, without agreement in the meaning of the terms they used, and in blind worship of the authority of Aristotle, without real regard to the true method of his philosophy or to the facts with which it dealt. As if knowledge were nothing more than a process of ingenious excogitation, they made no attempt to observe the phenomena of Nature, and to search out the laws governing them, but laboriously "invoked their own spirits to utter oracles to them"—wherefore philosophy was little more than a web of unmeaning terms and of empty metaphysical subtleties.

With this sort of intellectual activity was joined, as the result of the detestable spirit which inspired monastic teaching and monastic practice, a harsh religious asceticism, through which the body was looked down upon with contempt, as vile and despicable, the temple of Satan, the home of the fleshly lusts which war against the soul, and as needing to be vigilantly kept in subjection, to be crucified daily with its affections and lusts. It was the earthly prison-house of the spirit whose pure immortal longings were to get free from it. Such was the monstrous doctrine of the relation of mind and body. What place could a rational theory of insanity have in such an atmosphere of thought and feelings? The conception of it as a disease was impossible: it was ascribed to a supernatural operation, divine or diabolical, as the case might be—was a real possession of the individual by some extrinsic superior power. If the ravings of the person took a religious turn, and his life was a fanatical practice of some extraordinary penance—if, like St. Macarius, he slept for months together in a marsh, exposing his naked body to the stings of venomous flies; or, like St. Simeon Stylites, he spent the greater part of his life on a pillar sixty feet high; or, like St. Anthony, the patriarch of monachism, he had never, in extreme old age, been guilty of washing his feet—he was thought to have reached the ideal of human excellence, and was canonised as a saint; more often his state was deemed to be a possession by the devil or other evil spirit, or the degrading effect of a soul enslaved by sin; from some cause or other he was a just victim of divine displeasure, and had been cast down in consequence from his high human estate.

It was the natural result of such views of insanity that men should treat him whom they believed to have a devil in him as they would have treated the devil could they have had the good fortune to lay hold of him. The tortures which the insane suffered from the devils that had entered into him were less than those inflicted by the devils who took charge of him. When he was not put to death as a heretic or a criminal, he was confined in a dungeon, where he lay chained on straw; his food was thrown in, and the straw raked out through the bars; sightseers went to see him, as they went to see the wild beasts, for amusement; he was cowed by the whip, or other instrument of punishment, and

was more neglected and worse treated than if he had been a wild beast. Many insane persons, too, were without doubt executed as witches, or as persons who had, through witchcraft, entered into compact with Satan. It is a striking illustration, if we think of it, of the condition of thought at that time, and of the great change which has taken place since, that such expressions as the black art, witchcraft, diabolical possession, and the like, have fallen entirely out of use, and would be thought to convey no meaning if they were used now. They were fictitious causes invented to account for facts, many of which undoubtedly lay within the domain of madness.

Now it is a fact, abundantly exemplified in human history, that a practice frequently lasts for some time after the theory which inspired it has lost its hold on the belief of mankind. No wonder, then, that the cruel treatment of the insane survived the belief in diabolical possession, though it is justly a wonder that it should have lasted into this century. The explanation of the seeming anomaly is to be sought, I believe, in the purely metaphysical views of mind which prevailed long after inductive science had invaded and made conquests of other departments of nature. Theology and metaphysics, having common interests, were naturally drawn into close alliance, in order to keep entire possession of the domain of mind, and to withstand the progress of inductive inquiry. With the notions they cherished of the nature of mind, and of its relations to body, it was thought impossible, and would have been denounced as sacrilegious, to enter upon the study of it by the way of physical research. To have supposed that the innermost sanctuary of nature could be so entered through the humble portals of bodily functions, would have been regarded as an unwarrantable and unholy exaltation of the body, which was full of all uncleanness, corruptible, of the earth earthy, and a gross degradation of the mind, which was incorruptible, of the heaven heavenly, and joint partaker of divine immortality. Whosoever dared to propound such a doctrine would assuredly have been put to death as a blasphemer and a heretic; and yet he ought to have been hailed as a benefactor. It is impossible to say of any false belief which mankind have had that it has been the most pernicious in its effects; but we may truly say of the theological notion of the relations of mind and body that it has been surpassed by few false doctrines in the evil which it has worked.

The spirit of metaphysical speculation was scarcely less hostile to physical researches into mental function. For when inquirers had struggled successfully out of mere verbal disputation, and had applied themselves to the observation of mental phenomena, the method used was entirely onesided; it was a system of mental introspection exclusively, each one looking into his own mind and propounding as philosophy what he thought he observed there; the external observation of mind in all its various manifestations, and of the bodily condition of all mental action, was ignored. When all knowledge of mental action was gained in this way by observation of self-consciousness, men naturally formed opinions from their own experience which they applied to the mental state of insane persons; feeling that they themselves had a consciousness of right and wrong, and a power of will to do the right and forbear the wrong, they never doubted that madmen had a like clearness of consciousness and a like power of will—that they could, if they would, control their disorderly thoughts and acts. The dungeon, the chains, the whip, and other instruments of punishment were accordingly in constant use as means of coercion, the result being that exhibitions of madness were witnessed which are no longer to be seen, "because they were not the simple product of malady, but of malady aggravated by mismanagement." What with the theological notion of madness as a work of Satan in the individual, and what with the erroneous views of it subsequently begotten of the metaphysical spirit, it came to pass that the barbarous system of treatment was only abolished within the memory of men yet living. In sad truth may we say that so far as a knowledge of the nature of insanity and of the proper mode of treating it is concerned, mankind owe no thanks, but, on the contrary, much error and infinite human suffering, to theology and metaphysics.

It was when men recognised insanity as a disease which, like other diseases, might be alleviated or cured by medical and moral means—when they regained the standpoint which the ancient Grecians had held—that they began the struggle to free themselves in this matter from the bondage of false theology and mischievous metaphysics. So far as the phenomena of deranged mind reach, the battle has been won and the victory is complete; no one whose opinion is of any value pretends now that they are anything more than the deranged functions of the supreme nervous centres of the body. But the victory is not yet complete along the whole line of mental function; there is the strongest desire evinced, and the most strenuous efforts are made in many quarters, to exempt from physical researches the highest functions of mind, and particularly the so-called moral sense and the will. The moral sense is, indeed, the stronghold of those who have made strategical movements of retreat from other defensive positions which they had taken up; and it is from this stronghold that what are deemed the most telling arguments against the Darwinian doctrine of physiological evolution have come. Are we then, as physiologists, to allow an exemption from physical research to any function of mind, however exalted, or shall we maintain through good and through evil report that all its functions, from the lowest to the highest, are equally functions of organisation? A vital question for us as medical psychologists, which we must, sooner or later, face boldly, and answer distinctly.

In Abercrombie's well-known and valued work, "Inquiries concerning the Intellectual Powers," there is a passage relating to the moral sense which seems to me almost melancholy. After pointing out clearly the existence of a moral insanity in which every correct feeling is obliterated in regard to moral relations, while the judgment is sound in all other relations, and so demonstrating that the influence of the moral principle on the power of conscience may be weakened or lost, while reason remains unimpaired, he says: "That this power should so completely lose its sway, while reason remains unimpaired, is a point in the moral constitution of man which it does not belong to the physician to investigate. The fact is unquestionable; the solution is to be sought in the records of eternal truth." Is not this passage truly melancholy? Must science really accept this attitude of helplessness? Must the physician who has to deal practically with these instances of moral insanity forbear for ever to investigate its nature and causation? So far from assenting to such an exclusion, I hold that it distinctly belongs to the physician to seek for the solution of the problem in the discovery of those laws of nature which are to him the incontestible records of eternal truth?

Let us clearly apprehend the problem which we have to consider. Some popular capital has been made, and made in quarters where we might justly have looked for greater sincerity or sounder apprehension, out of the fact that physiology, however far it may advance, can never bridge over the gap between nerve elements and mind, can never leap from the movements of nerve molecules to consciousness. No one has ever said that it could; the problem before us as scientific observers is not to demonstrate the real nature of the force which we designate mental, nor to show how and why certain molecular movements in nerve become, if they do become, sensation or idea, but it is to trace here, as in other departments of nature, uniformities of sequence, to point out that certain sequences are, within our experience, the invariable consequences of certain antecedent conditions. The *how* or the *why* is a mystery which we do not pretend or attempt to explain; we do not even aspire to know it. We can only know the uniformities of sequence as we do the uniformity of sequence which we call gravitation. What is the actual power which makes one body attract another directly as the mass and inversely as the square of the distance, we have not the least knowledge; why and how certain molecular movements become heat, or electricity, or chemical action, we are just as ignorant; and in admitting that we cannot comprehend how certain states of matter occasion certain states of mind, we may rightly demand that no more should be asked of the physiologist, in explanation of the *why* of events, than is asked of the physicist. The mystery is neither more nor less in one case than in the other. To say that it is inconceivable that matter, in however complex a state of organisation, should generate consciousness, should feel and think, is simply an appeal to the self-sufficiency of human intellect at the present day, and a sort of argument which, if logically

carried through, would bar any new conception of what, from ignorance, is yet inconceivable to us; it would make the present limit of conception the limit of conception for ever; and it is certainly unwarrantable in the face of the fact that the history of the progress of knowledge is, in great part, a history of the inconceivable becoming conceivable. Moreover, it is an assertion which is positively contradicted by the testimony of persons who have been presumably in their right minds, and who have not spoken in mere haste and ignorance. Let me instance that of one person, whose qualifications few will contest—I mean John Milton. Both in prose and poetry he makes known his opinion that matter is capable of intellectual functions, declaring, in "Paradise Lost," that the first matter rises through various degrees of substance and of life, until "body up to spirit works," just as from the root springs lighter the green stalk, from thence the leaves, and, "last, the bright consummate flower spirits odorous breathes." That he intended this passage not merely as poetry, but as sound philosophy, is proved by what he says in his "Treatise on Christian Doctrine," where he declares—"That man is a living being, intrinsically and properly one and individual, not compound or separable, not, according to the common opinion, made up and framed of two distinct and different natures, as of soul and body,—but the whole man is soul, and the soul man; that is to say, a body, or substance, individual, animated, sensitive, and rational." The notion of matter being capable of thinking was clearly then not inconceivable to Milton; and there can be no doubt that there always have been persons who have found it more conceivable than the notion of spirit entirely distinct from body, and yet acting upon it in every thought, feeling, and act of life.

With these general remarks, by way of necessary caution, let me come to the particular problem which we have to face—namely, whether there is the same essential connexion between moral sense and brain which there is between thought and brain, or between any of our special senses and its special ganglionic centre in the brain? Is conscience a function of organisation? I will ask you to look without prejudice at the facts of observation, and to consider if they admit of any other scientific interpretation. For the medical psychologist, whose duty brings him into constant intercourse with facts, cannot rest satisfied with vague speculations; he is bound to investigate the phenomena as they present themselves to observation, and to form conclusions from them, without regard to accepted theories of faith or knowledge; and if he arrives at sound conclusions from such observation of facts not before observed, these will not contradict old faiths unless in that wherein old faiths are wrong, and it is right they should be contradicted.

His generalisations, like the generalisations of astronomy, chemistry, or any other branch of science, must rest on their own merits; they cannot justly be tested by any preconceived standard of truth, however much hallowed by antiquity or sanctioned by authority. When we come to deal with examples of moral degeneracy, whether among the insane or among criminals, we perceive at once that it is not sufficient to ascribe immorality to the devil; that we must, if we would not leave the matter a mystery, go on to discover the cause of it in the individual. The effect defective comes by cause, we are constrained to believe; what is the cause and what are the laws of moral degeneracy? As society is constituted, certain forms of evil-doing are certainly not profitable in the long run: how comes it, then, that an individual, capable of looking before and after, remembering the retribution of past sin, and foreseeing the Nemesis that waits on future wrong-doing, is so forgetful of true self-interest as to yield to evil impulses? And whence do these impulses come? One thing is certain: that moral philosophy cannot penetrate the hidden springs of feeling and impulse; they lie deeper than it can reach, for they lie in the physical constitution of the individual, and, going still farther back, perhaps in his organic antecedents. Because the fathers have eaten sour grapes, therefore it often is that the children's teeth are set on edge. Because the fathers had stoned the prophets, therefore it was that the children rejected Him who was sent unto them. Assuredly of some criminals, as of some insane persons, it may be truly said that they are born, not made; they go criminal, as the insane go mad, because they cannot help it; a stronger power than they can counteract has given the bias of their being. Those who doubt this when it is put in this positive form, will hardly continue to do so when they consider that between the drivelling idiot, equally destitute of intellect and moral feeling, whom no labour of training can raise to a human level, and the highest example of intellect and moral feeling, there are beings marking every step of the long gradation; that we may mount from entire absence of moral sense through every grade of deficiency up to its highest state of development. I do not dispute that much may sometimes be done by education and training to counteract in this respect the ills of a bad inheritance, but it is still true that the foundation upon which the acquisition of education must rest are inherited, and that in many instances they are too weak to bear a good moral superstructure. Moral philosophy may make its hard and fast lines, and lay down abstract propositions concerning the power of the will in the conduct of life; but, when we have to do with concrete cases, it is plain that no such definite lines can be applied, and that the abstract propositions are only true of a certain proportion of mankind. Moreover, it appears also, that those of whom they are true have much less merit in the matter, and those of whom they are not true much less blame, than moral philosophers are apt to imagine and inculcate. The fate of inheritance which constitutes the misfortune of the latter constitutes also the virtue of the former. There is often *nulla imputatio* in one case, *nulla virtus* in the other.

The causes, course, and varieties of moral degeneracy are not then merely subjects for the moral philosopher or the preacher; but they are proper subjects for positive scientific inquiry. And if they be so investigated, it is not unlikely that the results may throw some light on the vexed question of the nature and origin of the moral sense. Now if there be a class of persons who are without the moral sense, who are true moral imbeciles, it is the class of habitual criminals. All observers who have made them their study agree that they constitute a morbid or degenerate variety of mankind, marked by peculiar low physical and mental characteristics. They are scrofulous, often deformed, with badly formed angular heads, are stupid, sluggish, deficient in vital energy, and sometimes afflicted with epilepsy. They are of weak and defective intellect, though excessively cunning; and not a few of them are weak-minded and imbecile. The women are ugly in features, and without grace of expression or movement. The children, who become juvenile criminals, do not evince the educational aptitude of the higher industrial classes; they are deficient in the power of attention and application, have bad memories, and make slow progress in learning; many of them are weak in mind and body, and some of them actually imbecile. At the end of the best part of a life spent among prisoners, a prison surgeon declares himself to be mainly impressed with their extreme deficiency or perversion of moral feeling, the strength of the evil propensities of their nature, and their utter impracticability; neither kindness nor severity availing to prevent them from devising and doing wrong day by day, although their conduct brought on them further privations. Their evil propensities are veritable instruments of their defective nature, acting like instincts, in spite of reason, and producing, when not gratified, a restlessness which becomes at times uncontrollable. Hence occur the so-called "breakings-out" of prisoners, when, without apparent cause, they fall into paroxysms of excitement, tear their clothing and bedding, assault the officers, and altogether behave for a time like furious madmen.

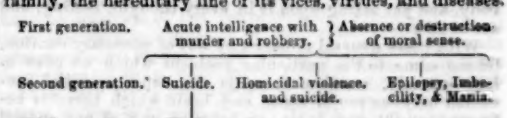
We may take it then on the authority of those who have had the best opportunities of observation, that there is a class of criminals formed of beings of defective physical and mental organisation; one result of the defect, which really determines their destiny in life, being an extreme deficiency or complete absence of the moral sense; that an absence of moral sense may be a congenital vice or fault of organisation. The experience of medical practice certainly confirms this view. From time to time we are consulted about perplexing cases of what might be called moral insanity, or, more properly, moral imbecility, in children of the better classes. Though born in good circumstances of life, and having every advantage of education, they cannot by any care or training be made to learn and behave like

other children; they display no affection whatever for parents, brothers, or sisters, and no real appreciation of the difference between right and wrong—no love for the one, no remorse for the other; they are inherently vicious, and steal and lie with a skill that it is hard to believe could ever have been acquired—are, in fact, instinctive thieves and liars; everything that their vicious nature prompts them to desire is for them right, and they exhibit a remarkable cunning in gratifying their evil propensities; they are the hopeless pupils of any master who has anything to do with them, and are sure to be expelled from every school to which they may be sent. In the end, all those who have to do with them are constrained to ascribe to defect what at first seemed simple badness. Now what we commonly find in these cases, when we are able to push satisfactory inquiry into their hereditary antecedents, is that they come of families in which insanity or some allied neurosis prevails. This is the interesting fact to which I wish to draw attention.

In addition to the entire absence or perversion of moral sense, without feeling of remorse, which experience of habitual criminals brings prominently out, other important facts which we learn from an investigation of their family histories are, that a considerable proportion of them are weak-minded or epileptic, or become insane, or that they spring from families in which insanity, epilepsy, or some other neurosis exists, and that the diseases from which they suffer and of which they die are chiefly tubercular diseases and diseases of the nervous system. Crime is not always a simple affair of yielding to an evil impulse or a vicious passion, which might be checked were ordinary control exercised; it is clearly sometimes the result of an actual neurosis which has close relations of nature and descent to other neuroses, especially the epileptic and the insane neuroses; and this neurosis is the physical result of physiological laws of production and evolution. No wonder that the criminal *psychoris*, which is the mental side of the *neurosis*, is for the most part an intractable malady, punishment being of no avail to produce a permanent reformation. A true reformation would be a *re*-forming of the individual nature; and how can that which has been forming through generations be *re*-formed within the term of a single life? Can the Ethiopian change his skin or the leopard his spots?

The hereditary kinship which is sometimes traceable between crime and insanity I cannot now set forth in detail; but, to make clear what I mean, I may give one or two illustrations out of many of a like kind which might be brought forward. Of five children from an insane mother and a drunken father, one was suicidal, two suffered imprisonment for crimes, one daughter was insane, the other was imbecile. Suicide, crime, insanity, and imbecility were thus different manifestations of a morbid type in the second generation. The case of Christiana Edmunds, who was convicted of murder, and afterwards reprieved and sent to Broadmoor, will be fresh in your recollection. Her father died raving mad in an asylum; her brother died epileptic and idiotic at Earlswood; her sister suffered from mental excitement, and once attempted to throw herself out of a window; her mother's father died paralysed and childish; a cousin on the same side was imbecile; she herself had been subject to somnambulism in childhood, and had finally had an attack of hemiplegia; and at the time of her trial her face, drawn to one side, showed the effects of the hemiplegic attack from which she had suffered. I had more than an hour's conversation with her in Newgate, and at the end of it two convictions were firmly planted in my mind; the first, that she had no real moral appreciation of the nature of her crime, and no shadow of a feeling of remorse with regard to it; the second, that she would have poisoned a whole city full of people if it had lain in her way to do so, without hesitation, compunction, or remorse. Nevertheless, her intellect was acute, certainly above the average, and showed no sign of disorder. I could only regard her case as a strong confirmation of an opinion which I had elsewhere expressed, and which I believe to be a just conclusion from facts: namely, that one occasional result of descent from an insane family is a nature entirely destitute of moral sense—congenitally defective in that respect—whereby the individual is as insensible to the moral relations of life as a person colour-blind is to certain colours. I give no opinion here as to the legal policy of treating such a person as of sound and responsible nature; it is a subject beset with difficulties, and many considerations on which I cannot enter now would have to be taken into account; but I may justly ask you as scientific men, whether you would pronounce a person with such hereditary antecedents and such personal ills accountable in the same sense or same degree as one of us? For my part, when one thinks of the terrible affliction which an unsound mental organisation is, and what a reason for devout thankfulness a man of sound descent and nature has, I would rather pray with the Arabian philosopher, "O God! be kind to the wicked; to the good thou hast already been sufficiently kind in making them good."

One example more shall suffice to exhibit the alliance between degenerate types; it shows the effect of crime in one generation of a family upon the mental organisation of the following generations—shows, indeed, how the sins of the fathers are visited upon the children unto the third and fourth generations. While the Reign of Terror was going on during the first French Revolution, an innkeeper profited by the critical situation in which many nobles of his commune found themselves, to decoy them into his house, where he was believed to have robbed and murdered them. His daughter, having quarrelled with him, denounced him to the authorities, who put him on his trial, but he escaped conviction from lack of proof. She committed suicide subsequently. One of her brothers had nearly murdered her on one occasion with a knife, and another brother hanged himself. Her sister was epileptic, imbecile, and paroxysmally violent. Her daughter, in whom the degenerate line approached extinction, became completely deranged, and was sent to an asylum. Here, then, is the sort of pedigree which we really want, if we are to judge of the worth of a family, the hereditary line of its vices, virtues, and diseases.



It may be said that this was an extreme and exceptional case. Without doubt it was an extreme case; but it is on that account the better fitted to produce an impression; and it must be remembered that the laws by which its results were worked out are laws which are continually at work in accomplishing less striking results, and that so-called exceptional cases in science are, when rightly studied, exceptionally useful in helping us to discover the laws for which we are searching. My argument is, that the moral element is an essential part of a complete and sound character, in the present state of human evolution; it was the last acquisition of development in the progress of *humanisation*, and it is commonly the first to suffer when degeneracy begins, and therefore its decay is the first sign of the commencement of such degeneracy. He who is destitute of moral sense is a defective being to that extent; he marks the beginning of race-degeneracy; and if better influences do not intervene to check or neutralise the morbid tendency, his children will exhibit a further degree of degeneracy, and be actual morbid varieties. What shall be the particular outcome of the morbid strain—whether vice, or crime, or madness—will of course depend much on the circumstances of life; the inborn fact counts for much, but not for everything, in the result. Certainly, however, it is a conviction in my mind, produced by observation of instances, that one way in which insanity seems to be generated *de novo* in a family, is through the deterioration of nature induced by destruction of moral sense. As insanity in one generation may produce an absence of moral sense in the next, so, conversely, absence or destruction of the moral sense in one generation may be followed by insanity in the next.

No one who has had much to do with the treatment of the insane can have failed to notice the mental peculiarities sometimes exhibited by their near relations. And one way in which these are displayed is an extreme morbid suspicion of everything and everybody; in the most innocent actions of others they detect an unworthy motive, and seize on the evil interpretation. They torment themselves and others with the ingenuity of their suspicions. Secret ways and dealings they affect naturally and pursue systematically; however insane their relative may be, they can hardly be brought to see it, and if they do see it, they seem actually

to persuade themselves that the doctor who has treated him, or those who have had the care of him, are responsible for his state. These moral peculiarities are constitutional; they are marks of one variety of the insane temperament, and, as such, are of interest to us in our present inquiry.

For the facts which I have thus far mentioned seem to me to prove the essential connexion of the moral sense with organisation, and to admit of interpretation only on that supposition. It, or the potentiality of it, is inherited by most persons, though some appear to be born without it; it is developed by culture; decays from disuse; and is perverted or destroyed by disease. The last acquired faculty in the progress of human evolution, it is the first to suffer when disease invades the mental organisation. One of the first symptoms of insanity—one which declares itself before there is any intellectual derangement, before the person's friends suspect even that he is becoming insane—is a deadening or complete perversion of the moral sense. In extreme cases it is observed that the modest man becomes presumptuous and exacting, the chaste man lewd and obscene, the honest man a thief, and the truthful man an unblushing liar. Short of this, however, there is an observable impairment of the finer moral feelings—a something different, which the nearest friends do not fail to feel, although they cannot always describe it. Now, these signs of moral perversion are really the first symptoms of a mental derangement which may, in its further course, go through all degrees of intellectual disorder, and end in destruction of mind, with visible destruction of the nerve-cells which minister to mind. Is the end then dependent on organisation, or rather disorganisation, and is the beginning not? This course of degeneracy is but a summary in the individual of what we have already seen to take place through generations, and in both cases we are constrained to believe that the moral changes are as closely dependent upon physical causes as are the intellectual changes which accompany or follow them. If it be not so, we may bid farewell to all investigation of mental function by a scientific method.

Other arguments in favour of this view of conscience as a function of organisation—the highest and most delicate function of the highest and most complete development thereof—might be drawn from the effect of a severe attack of insanity on the moral feelings. The patient entirely recovers his reason; his intellectual faculties are as acute as ever, but his moral character is changed; he is no longer the moral man that he was; the shock has destroyed the finest part of his mental organisation. Henceforth his life may be as different from his former life as was the life of Saul of Tarsus from the life of Paul the Apostle to the Gentiles. An attack of epilepsy has produced the same effect, effacing the moral sense as it effaces the memory sometimes; and we are all familiar with the marked temporary change of moral character in the epileptic, which often precedes and heralds the approach of his fits. A fever or an injury to the head has in like manner entirely changed the moral character, and so also has habitual opium-eating or habitual drunkenness. The evil effects of these vices might of course be ascribed to the indulgence of passion and the degradation of the moral sense apart from physical causes; but the same cannot be said of the effects of a fever or of an injury to the head. Moreover, we know that alcohol and opium do affect the brain by their actual presence there, and through the brain the mind, just as strychnia affects the spinal cord and its functions; and we know also that it is in the natural order of events that continuance of perverted function should lead to organic disease. In the case of opium or alcohol, then, as in the case of a blow on the head, we believe the effect to be physical.

We are further strengthened in this conviction when we take note of the decided effects of such a vice as self-abuse upon the moral character, or of such a sexual mutilation as eunuchs have undergone. Long before self-abuse destroys the mind, it destroys moral energy and feeling, this effect being the precursor of the intellectual impairment which goes on to utter dementia in the worst cases. Of the moral character of eunuchs, all that we can briefly say is, that in most cases they have no moral character; their minds are mutilated like their bodies; with the deprivation of sexual feeling, they are deprived of all the mental growth and energy which it directly or remotely inspires. How much this is, it would be hard to say; but were man deprived of the instinct of propagation, and of all that mentally springs from it, I doubt not that most of the poetry and perhaps all the moral feeling would be cut out of his life.

Before such an audience, it is not necessary for me to insist further on such facts as I have mentioned; as physicians we cannot fail to recognise them; but it is necessary for us, if we would be, like our great master Hippocrates, philosophers as well as physicians, to give them their proper place in a system of medical psychology, and to weigh their bearing on accepted philosophical theories. I had meant to point out how they go to prove the doctrine of evolution to be true of the highest mental faculties of man, including his moral sense; but I must refrain. Already I have trespassed too long on your patience. The medical psychologist must, I think, hold that the best of the argument concerning the origin of the moral sense is with those who uphold its acquired nature. That the sentiments of common interest in the primitive family and tribe, and the habitual reprobation of certain acts by individuals as injurious to the family or tribe, should finally generate a sentiment of right and wrong in regard to such acts, and that such sentiment should in the course of generations be transmitted by hereditary action as a more or less marked instinctive feeling, is in entire accordance with what we know of the results of education and of hereditary action. Time was, we know, when men wandered about the country in families or tribes. In order that they might rise from this nomadic state to a national existence, the acquisition and development of a moral sense must clearly have been essential conditions—not, however, as performed agents, but as concomitant efforts, of evolution. This development is still going slowly on; but the proof how little moral sense itself instigates progress is seen in the absence of it between nations. Men have risen to a national existence, but they have not yet risen to an international existence. With moral principles that have not changed within historical times, nations still laud patriotism, which is actually a mark of moral incompleteness, as the highest virtue; and statesmen think it a fine thing to sneer at cosmopolitanism. But it cannot be doubted that the time will come, though it may be yet afar off, when nations will know and feel their interests to be one, when moral feeling shall be developed between them, and when they shall not learn war any more; it will come as a step in evolution and as a condition of universal brotherhood, not otherwise than as, coming between tribes, it bound them into nations, and made patriotism the high virtue which it is believed to be.

In the work of helping to trace the path of human evolution through the ages, a great function lies before a scientific psychology; and in investigating in our department thereof the characters of the various neuroses, and the causes, course, and varieties of human degeneracy, which seem to be necessary retrograde accompaniments of progress, we medical psychologists have a vast field before us. To rise to a just conception of the scope and dignity of our work will be the best inspiration for entering on it as is becoming, neither in an abject spirit of superstition, nor in an arrogant spirit of conceit. For we must not forget that, however clearly we trace the order of events, the mystery of their *why* remains where it was; however clearly we may follow "one first matter" through

> "its various forms, and various degrees
> Of substance, and in things that live, of life,"

the power which determines why one tissue should supervene on another, why life should tend upwards, which inspires and guides the everlasting becoming of things, must ever remain past finding out. Man himself, with all his sorrows and sufferings, with all his hopes and aspirations, and his labours wherewith he has laboured under the sun, is but a little incident in the inconceivably vast operations of that primeval central power which sent the planets in their courses, and holds the lasting orbs of heaven in their just poise and movement.

FAMINE FEVER IN TEHERAN.—We understand that there is much famine fever in Teheran, and that the mortality is very high. It is stated that as many as 200 persons die of it in a day, while other reports state that the number has reached nearly 300.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF SURGERY,

At the Annual Meeting of the British Medical Association, in Birmingham.

BY SIR WILLIAM FERGUSSON, BART., F.R.S.,

SERJEANT-SURGEON TO THE QUEEN; SURGEON TO KING'S COLLEGE HOSPITAL; PRESIDENT OF THE SECTION.

GENTLEMEN,—In commencing the business of the Surgical Section of the meeting of the British Medical Association for the year 1872, and on assuming the position of your chairman, it may be naturally expected that I shall begin our special business by an address appropriate to the work which we now inaugurate. It would indeed, in my opinion, be a great defect were such a ceremonious beginning neglected; but it would be equally inappropriate were one in my position to offer you any semblance to those addresses in surgery to which we have been so long accustomed, from those who have been specially appointed to deliver them at each annual meeting. At our present concourse the Address in Surgery is to be given by one of the foremost of our surgical brethren of the day, Mr. Oliver Pemberton, whose name, as a pathologist and practical surgeon, is known wherever the history of modern surgery extends. It would, therefore, be as unbecoming as uncalled for were anyone in my position to encroach upon the duties which belong to a gentleman so thoroughly able to do all that has been asked of him by our Association; more particularly as most, if not all, of us are honoured visitors in that town where his laurels have been won, his fame is sacredly cherished, and his fortunes are centred. There seems little before me then, gentlemen, than to express my sincere appreciation of the honour conferred upon me by the authorities of our Association in offering me the chair which I now assume. It is assuredly the foremost place which the British Medical Association could offer to one in my special department; it is, in addition, an expression of kind and brotherly love, which I accept with the same heartiness with which it has been offered.

I am sure that I shall not be trespassing on our friend Pemberton's department, when I offer such of you as mean to devote your energies to our Surgical section, a presidential congratulation on the work you are about to undertake. It would be invidious in us to draw distinctions as to the merits of our different sections; but all of us here, devoted as we are to surgery, must feel that we are assembled on a noble occasion, where we can interchange thought and speech in our great department of the healing art, and when each and all can, with becoming grace, show what the last twelve months have added to the progress of the profession in which we are so deeply interested.

As your president, I cannot but anticipate that a choice repast of information is before us, and I cannot doubt that, like true searchers after knowledge, you are eager that the flood-gates should be opened at once, to permit the ready flow of the streams which have been in a manner pent up during the last year.

If I had not had a predilection for surgery, gentlemen, I should not now have been in this chair; and I am sure that my fellow sectional presidents cannot take offence when I congratulate you on your choice of department or section in our profession.

The grandest feature of surgery is precision. In our present knowledge, and I fear it ever must be, there are doubts, hesitations, and great imperfections; yet there are accumulated stores of facts which may justly make us proud of our profession. A history of surgery would be as inappropriate from this chair as an interference with the yearly address; yet a brief glance at the results of the course of surgery during somewhat more than a generation by one like myself, who for more than forty years has been devoted heart and soul to the subject, may possibly fill the measure of expectation on the present occasion.

In my younger days, the surgeon had few sources of alarm greater than that of inflammation of veins, phlebitis as the term went. Abernethy had added greatly to his reputation by his celebrated essay on the occasional evil consequences of the operation of venesection. Every good surgeon did his best, by suggestion and action, to prevent injury to veins during operations; above all, we were restricted from putting ligatures on veins, such a step being deemed wellnigh fatal, although there was ample proof that some thirty or forty years further back our predecessors were by no means nice in excluding veins from nooses which were intended for arteries chiefly. It is doubtful if their operations were less successful than ours. At all events, we have so far changed in regard to the probabilities of phlebitis, that we, in the present day, think as little of applying ligatures to veins as to arteries, when there seems need, and we take all sorts of rough liberties with them when in a varicose state. True, we have a modern bugbear in the shape of pyæmia, for which the veins are greatly blamed, a disease about which there prevails more questionable physiology than common sense should admit. This subject is closely allied with what was called secondary deposit in former times, and this last-named condition was itself closely allied with Hunter's views and theories regarding inflammation. Any one who is watching the spirit of the times must see that there are strange views afloat regarding Hunterian doctrines, which seem totally to ignore our great surgical philosopher—most notably in this respect, that what Hunter thought was developed by Nature from within, is now alleged to have origin in external influences and agencies which have no dependence on what has heretofore been considered life and life-like action within the frame.

Gentlemen, there must ever be theories in surgery as in medicine, and when these are propounded by men of undoubted character and consideration, it behoves us all to wait cautiously to see the influence of time in the development of facts for or against what may be called the fashionable doctrines of the day.

But, gentlemen, as I have said, one of the grandest features in surgery is its precision. This applies more to the art than to the science of our department, and one fact is worth a volume of theory. That a new operation has been added to our list of operations—that at the ankle, as developed by Syme and Pirogoff, is a fact that surgery may justly be proud of. As much may be said regarding amputation at the knee, the most recent and greatest stimulus having been given in that direction by one of the foremost of British surgeons, our respected member, Mr. Carden, of Worcester. I maintain it as a fact, that even amputation itself, the direst of all surgical operations, has been largely superseded by more judicious methods of treatment. It seems a fact, that statistics of amputations are no longer so fashionable as they once were, because it has been proved by fact that a more limited use of the long knife might have greatly diminished the numbers of those operations which have been justly called the *opprobria* of surgery.

When ovariotomy was first propounded, it was little else than a theory—a rash visionary scheme for notoriety; but, thanks to the well-directed efforts of Brown, Wells, Keith, and a host of others, the proceeding is a well established fact, which ranks among the best and safest efforts in surgery to save human life.

Anæsthesia is another fact in modern surgery; perhaps, in reality, the most surprising of all. We are often told that the facts in real life are more surprising than those which the novelist delights to depict in fiction; and, in my opinion, the fact of anæsthesia, by whatever means it is brought about, by far surpasses all that has yet been done in regard to practical surgery.

Gentlemen, my mind has perhaps been naturally inclined to refer to "facts" on the present occasion, from the circumstance that, in my own professional career, I have been always more influenced by facts than by suppositions or questionable agencies; by the positive than by the speculative. I fear that it must be admitted that, despite all the skill of medicine from the earliest times to the present, the disease stone in the bladder must still be admitted as one of the "ills which flesh is heir to" as a fact. We know it, however, as a fact, that our skill is such that we can combat that fact, and even assume the supremacy by surgically doing away with it. It is a matter of theory whether or not we can combat successfully with a diathesis to stone; but it is a matter of fact that we can combat manfully, aye, even successfully, with that painful enemy, when he once

plainly shows his colours. Taking the surgical aspect of treatment, we can more readily, and with greater certainty, cope with this disease than with many others that come under the consideration of the surgeon.

It has been my fate, gentlemen, to have been largely engaged in this field of combat. Others in this country, of my own age, may have been more so; but, with the exception of Sir Henry Thompson's experience in lithotrity, their labours have not been made public, or have escaped my observation. Whether my contemporaries in Britain have treated more cases of stone in the bladder than I have, I am not prepared to say, or whether they have more proofs of experience than I can display, is also beyond my knowledge, but anyhow, to add my humble effort to what may excite interest in this meeting of the British Medical Association, I have ventured to put on show the results of my personal work in dealing surgically with this fell malady of mankind. By a kind of prescience, as I may now call it, I, at an early period of professional life, kept, on behalf of my own surgical museum, or surgical taste, all that could serve to revive the memories of the past or illustrate the events of the passing day. Throughout my professional life I preserved any stone or bit of stone that I could secure as a trophy of surgery, and now I have the honour of laying before the present meeting of this Association between 300 and 400 specimens of this disease which have been dealt with by my own hands. Every now and then patients or their friends have insisted on keeping what might be deemed as hereditary personal property, and occasionally specimens have fallen aside, but on the whole, I must admit, that my patients or their friends have humoured my fancies and given me free possession of the results of my surgical prowess. I exhibit the produce of between 330 and 350 cases of stone, personally treated by myself—about 200 by lithotomy, the rest by lithotrity. The aggregate of stones removed amounts to nearly 500 in number. There may be others of my own time who can speak of larger numbers, there may be those who can show larger numbers of actual proofs of what they have done in this field of surgery, and it would please me much to see or hear of their evidence.

Most of these specimens were exhibited years ago at the Royal College of Surgeons in London, when I lectured on the subjects of lithotomy and lithotrity, but the time for their display was so evanescent that they attracted little attention, although at that date there was not a specimen of crushed stone by lithotrity in the Museum. A feeling seems to prevail that there is no interest in a stone broken into fragments by the lithotrite, but if it has been cut into two by a saw, after its removal from the bladder, the cut surface is eagerly looked at. No doubt the interest here has reference to the chemical composition of stone, and possibly the nucleus, although the section does not invariably make that clear. In my estimation, the fragments in lithotrity possess an interest equal, if not greater, in every respect to the cut or entire specimens. The chemical composition of a stone can be as readily made out from fragments as from sections; so also as regards the nucleus; and, indeed, from these fragments we can often acquire a knowledge of a patient's constitution, as regards the tendency to the formation of stone, which we cannot in any other way. We can see how in some the fragments will lie in the bladder without change of surface much longer than in others. In one case we can recognise for days, even weeks, the fragments of an uric-acid stone with edges defined and surface the same as when first broken; in another, we perceive how readily and rapidly new stone deposit occurs—generally phosphatic. Then, too, we can speedily appreciate the danger of neglect or carelessness after lithotrity is once begun, for, in place of probably only one stone being present, there may, indeed there will, soon be many stones, for each fragment becomes a nucleus for fresh deposit, and this hastens on with greatly increased rapidity. Even the nucleus, always a centre of interest, may be as appreciable in the fragments from lithotrity as when displayed by the saw. It has happened to me in a case of crushing in a female, to be struck with the appearance of redness in many of the fragments; and on investigation the mystery has been revealed on confession, that the patient had been in the habit of tickling herself with a stick of red sealing-wax, a portion of which had broken off in the urethra, and remained in the bladder. The fragments will be seen in the collection.

Again, I once was aware, in using a lithotrite in a male, that I had clutched something peculiar. On withdrawing the instrument, there was a black substance about an inch long between the blades. A surgeon present, who had been in charge of the case for years, immediately exclaimed, "Egad! this is the end of my gutta percha catheter." A terrible revelation, for in the interim the patient had undergone prolonged treatment for chronic inflammation of the bladder, and had actually gone a voyage to Madeira in search of health.

I put as much faith as any man does in the chemical treatment, if I may so call it, of the diathesis of stone; but when once a stone has formed (and in most instances it is so without marked premonitory warning), the "fact" of stone is established, and there may be room for doubt whether chemical treatment does not then make matters worse; for, whatever the quality of urine, the chances are that, a nucleus being present, deposition of stone will go on with increased rapidity, equivalent to the increase of size of the stone. That there may be exceptions to this rule, I admit; and there are two stones in my collection from one bladder, which are so smoothly polished by attrition that the formation of more stone had probably ceased for many months, if not years, before they were removed.

I have referred, gentlemen, to the chemical treatment of stone in the bladder chiefly for the purpose of ventilating a sort of heresy of my own—viz., that in our treatment of stone, and in our estimate of specimens of stone in our museums, the chemical composition has been improperly the feature most referred to. Stone in the bladder is essentially a surgical disease; it can be treated effectually only by the surgeon; and to him the size, or, I may call it, the circumference of the substance to be removed, possesses the most engrossing interest, whether he looks to his own mechanical work or the safety of the patient, for I hold it as a maxim, particularly in lithotomy, that the bigger the passage required for egress, the more difficult and the more dangerous is the operation. The accoucheur considers the size of the head, but does not trouble about its chemical qualities or composition. So should the surgeon the stone, both in regard to lithotomy and lithotrity.

But time will not permit me to say more on such subjects, and I shall conclude by a partial quotation from one of my lectures, delivered seven years ago at the College of Surgeons—some of my language holding as strong an impression on my mind as ever. In the collection which I have the honour to exhibit, "there are examples of comminution from lithotrity, enough to satisfy those not much acquainted with the operation, and entire stones, the result of lithotomy, exhibiting specimens from a few grains in weight to nine ounces—from one solitary stone in the bladder to forty-two. There is the first, taken out in 1832; and the last, removed in 1872. There is the most tiny—a thing not larger than a common pea; there are those which weigh from four to nine ounces. There is a single, solitary, grim, savage-looking mulberry calculus, which held possession of its vesical home for forty years; there are numbers, from two to forty-two, smooth and less formidable in aspect, yet equally painful and dangerous to the sufferers. A momentary glance can sweep over the range; but it is only those who, like myself, have been engaged in such work, that can estimate the days, the nights, the months, the years of anxious thought and labour associated with the results which I now put before you."

THE TREATMENT OF SMALL-POX BY VACCINATION AND THE HYPODERMIC INJECTION OF LYMPH.

BY R. C. FURLEY, L.R.C.S.

IN replying to Dr. Grieve's comments and cases of the above treatment, it is necessary to clear out of the way some matters more personal than relevant which Dr. Grieve has introduced into the controversy. First, he refers to letters sent by me to a daily newspaper in which I lauded this treatment. This is perfectly true, and I am lauding it still. At the time those letters were written a large number of people were afraid to get revaccinated, as it was con-

sidered certain death if the "poisons met." Some medical men refused to vaccinate under the same fear, and others turned away patients who came for revaccination because the mark of primary vaccination was visible; and through the above fear I could not get patients to submit to my treatment. No sooner were my letters published than such foolish fears were completely dissipated, and medical men were calling on those whom they had previously refused to vaccinate, and the people flocked to get revaccinated, one gentleman saying at the Obstetrical Society that since then he had vaccinated at least a hundred every week. The Society generally acknowledged that, so far as this was concerned, the letters had done a great deal of good; I am therefore not ashamed of doing good.

The next subject introduced by Dr. Grieve is a delicate insinuation that I am practising homœopathically. "It is," he says, "by their great similarity, if not virtual identity, that the vaccine acts upon the variolous disease; and, if Mr. Furley is right in his deductions, in this instance at least the dogma of homœopaths is correct, *similia similibus curantur*." Now, on this point, the poisons may be identical in origin, but how different their effects! Two seeds may be very much alike, but when the plants grow the similarity has vanished. "By their fruits shall ye know them." Will Dr. Grieve take the microscope and point out the identity?

Dr. Grieve does himself an injustice in "supposing" that all my patients were "unvaccinated," or "that they were between the fifth and twentieth years of age, and had four or more good marks of primary vaccination"; because he has evidence to the contrary. He cannot seriously oppose evidence by suppositions; nor should he "imagine" my sixty cases to be mild when I stated I had deaths.

I come now to the point at issue between us. I take it that our relative positions are, that Dr. Grieve is the defender, and I am the assailant, of the views generally held by the profession. I stated the proposition that "vaccination is not only prophylactic, but *curative*." Now what should guide us in this inquiry? Surely reason and observation. What reasons, then, can be adduced in favour of the proposition? First, let us examine Mr. Marson's rule—the correctness of which I presume Dr. Grieve admits,—and see if there is nothing in it in support of my view. "Suppose," he says, "an unvaccinated person to inhale the germ of variola on a Monday. If he be vaccinated as late as the following Wednesday, the vaccination will be in time to prevent small-pox from being developed. If it be put off till Thursday, the small-pox will appear, but will be modified. If the vaccination be delayed till Friday, it will be of no use." Here, taking the first part of the rule, the variolous poison is first in the blood, and lymph is added. What becomes of the variolous poison? It suffers death, or, what is equal to it, it is reduced to inactivity. By what means has this effect been produced? Admittedly by the vaccination. Even if done on the Thursday it has a curative effect, though not to the same extent: "the disease is modified." After 12 o'clock on Thursday night, however, Mr. Marson says it is of no use. This, of course, is the real point in dispute. Is it reasonable to suppose that vaccination, which a few hours before was capable of doing so much good, suddenly, as it were, refuses to render any further aid? I think not; and various writers in THE LANCET have shown that secondary fever does not ensue if the vaccination is concurrent with the variolous disease. Now, what does the absence of secondary fever prove? Dr. Bakewell has pointed out that the secondary fever—or fever of maturation, as Trousseau terms it—is a true surgical fever, and arises from the pressure on the true skin of the variolous matter contained in the pocks. The absence of secondary fever, therefore, proves a diminution of the amount of variolous poison developed. It will tend to fortify rather than to weaken my position if I turn one of Dr. Grieve's own arguments against himself (I am always assuming that he is the champion of the present views, none else having come forward to vindicate them), and the argument is this, as stated by Dr. Ballard:—

"Let us now inquire into the *modus operandi* of the virus (vaccine),—what it has been doing to produce these results, and how it brings them about. We have two things to explain—the production of a local eruption, and the production of a general influence, accompanied in the instance of small-pox with a general eruption also: that is, we see constantly in small-pox and vaccinia a local multiplication of virus; and constantly in small-pox, exceptionally in vaccinia, a systemic multiplication of virus. *E nihilo, nihil fit.* If virus is thus multiplied—manufactured, so to speak,—it must have been manufactured out of *something*. A seed may sprout, the germ may develop, but it is at the expense of the 'albumen' about it and the water it imbibes. It will not grow into a plant, and itself produce more seed, unless it be supplied with appropriate nutriment from the soil and atmosphere. So there must be something in the body into which a virus is inserted to nourish it and permit of its reproduction—a pabulum. This pabulum is believed to exist in the blood—the blood which circulates through the frame, whose 'home' where it remains longest is the capillary vessels reticulated through all the tissues of the body. What is it? It is not anything absolutely essential to the blood, in the sense that it is necessary to that fluid as the source of supply of nutritious matter for the tissues and organs; it is nothing essential to their wellbeing, for when it is absent, as it is sometimes, from the blood, the body thrives just as well without it. Still it is something natural to the blood, since few people exist in whom it is not present. Its actual nature is not understood. All we know of it is, that the growth and multiplication of the virus does away with it, just as the growth and multiplication of the yeast plant does away with the sugar in an infusion of malt."

Now, supposing this theory correct, we know that from four to eight vesicles successively produced will entirely exhaust this pabulum, while it will take thousands of pocks to bring about the same result. Each vaccine vesicle therefore represents some hundreds of pocks, or a corresponding diminution in their volume. Dr. Grieve will kindly point out the fallacy of my reasoning here, or admit that there is some room to doubt the correctness of the theory. The latter course I myself take, as I think it impossible for the pabulum, whatever it might be, not to be speedily restored, taking into consideration that the blood is nourished by substances from without, and that there is ingestion of a variety of such substances. But it is one thing to find fault with a theory, and another to replace it with a better. From my experiments, I am led to the conclusion that the protection against small-pox is the actual presence of lymph in the blood, and that the pabulum of vaccinia and variola is the pabulum of any other cell formation. This theory seems much more intelligible, and explains almost at once the many anomalies connected with the disease—such as taking small-pox immediately after successful vaccination—cases that become aborted, mild or severe. It explains how Mr. Marson is correct as to quantity being chiefly concerned in effecting a good protection. It explains the necessity of revaccination at a subsequent age, as the quantity of blood has increased, while there is no proof that the lymph has multiplied in the system in proportion. Suppose the quantity of lymph required to afford full protection to be represented by the number 8, then any less quantity down to 0 will represent cases of corresponding mildness or severity. I put forward this theory because, even if not correct, it is reasonable, and it is the theory on which my practice is based—namely, to supply the supposed deficiency in any given case. Does lymph circulate in the blood? If this be doubted, how can the areolar stage of vaccination be accounted for, unless by the absorption of lymph from the vesicle? But an areolar stage, exactly resembling the one occurring in ordinary vaccination, can be produced by injection in three or four days in a healthy individual, although it is not advisable, owing to its severity, except in persons who are exposed to the disease, and on whom ordinary vaccination has been unsuccessful. In some such cases I have injected lymph without producing any local effect or any symptoms of constitutional disturbance. I have no doubt, therefore, that the real protective power is not the destruction of a pabulum—not the production of a disease, else revaccination would, generally speaking, be unnecessary,—but the circulation of lymph, or the products caused by its presence.

Coming to Dr. Grieve's cases, I have to thank him for the minute and painstaking manner in which they are recorded, and for the comments attached to each case. I only wish it had been in my power to have imitated him in this respect, but the exigencies of general practice, as a rule, preclude those so engaged from recording their cases so minutely as they would wish, or as the cases deserve.

There is one point in his cases which has struck me very

much, and that is, the number of abscesses he observed. Assuredly, if I had seen any such mishaps in my first seven cases, I would have come to the same conclusion at which he has arrived, nor would the treatment by injection ever have been recommended by me. But it was a matter of remark and surprise all along how little disturbance was produced by the injection. When I wrote of my sixty cases, I had not observed anything of the kind at all. Since then I have observed it once, and that case is seventieth on my list, in which three small abscesses formed in succession, which I attributed to restlessness during the operation; for I invariably lifted up the skin after the needle was inserted, so as to avoid injuring any other textures. How to account for the difference in Dr. Grieve's experience and mine as regards this I am quite at a loss to give any reason, unless it be the presence of his patients in a public hospital. It cannot be the operation, or I should have observed it more than once; indeed, I looked upon the absence of these troublesome complications as one of the virtues of the treatment.

Even at the seat of the operation I have not seen any irritation equal to one-third of what usually occurs in an ordinary case of vaccination, and I have injected as much as three tubes into each arm.

It will be remembered that in my paper in THE LANCET I mentioned that "the treatment was much more successful in the youthful than in the adult period of life," and that I thought this was owing to adults "requiring more of the remedy." Further experience bears me out in this opinion, as I have since then injected six tubes in two cases in which the eruption appeared copious, and with the effect of both cases aborting on the fourth day. Quantity seems to be everything in the matter; but the great difficulty has been to have an intelligent basis from which to proceed. Before summarising my cases, I may quote a case in which the variolous eruption receded as the vaccination proceeded. In the latest edition (1871) of Sir Thomas Watson's Practice of Physic (vol. ii., p. 950) is the following passage:—"The following case, related to me by Dr. Johnson, shows that vaccination *may* curb the small-pox even when performed at a later period after the reception of the variolous poison. A boy in a house where a fatal case of small-pox had occurred was vaccinated for the first time. About the fourth day after the operation, when the vesicles were beginning to rise, he sickened with small-pox. The initiatory symptoms were severe, and an abundant eruption appeared. About the fourth day, however, the variolous eruption rapidly subsided, and the child was convalescent. Meanwhile the vaccine pustules pursued their regular course. The vaccination was just in time to arrest the progress of the small-pox." Now, with all due deference to Sir Thomas Watson and Dr. Johnson, I think that they have drawn a wrong inference from this case. They seem to regard it as one of prevention. But it is not so; for the disease was outwardly and manifestly there, and yet it disappeared.

I have seen this complete disappearance of the eruption five times. I have already described two of the cases, and will now detail the other three.

CASE 3.—A. B——, aged twelve, was vaccinated in infancy, and revaccinated three days before he sickened with the small-pox. The eruption made its appearance on the fourth day, when I injected the lymph of one tube. Next day the redness surrounding the vesicles was fainter. The following day the vesicles themselves were not so prominent. On the fourth day after the eruption had appeared all trace of it had gone. I know that this boy was exposed to the infection.

CASE 4.—A. S——, aged six, unvaccinated, was first seen on a Monday, being the second day of the eruption, which was very abundant on the face and extremities. I injected two tubes of lymph. On Tuesday the redness was disappearing. On Wednesday the eruption was receding. On Thursday it was nearly gone, except on the arms. On Friday there was no trace of it except on the uninjected arm, where bluish marks were visible, similar to those of a person who had passed through the disease. On the eighth day after the injection there was only a black mark at the point where I had injected, which on the thirteenth was covered by a little scab like a seed-pearl. There never was any appearance of irritation at the point of injection.

CASE 5.—A. H——, aged four, with one vaccination mark, and whose brother and sister had small-pox. The initiatory symptoms were not severe. On the second day of the eruption the vesicles contained the characteristic fluid with the surrounding areola. I injected the contents of three tubes. On the third day the areola round the vesicles on the injected arm was not so bright. By the fifth day the eruption had totally disappeared, without leaving a mark or casting a scale.

Now these cases show, as distinctly as cases can show, the curative nature of vaccinia. It might be asked, however, if I was really certain that they were cases of variola at all. They were so, for the initiatory symptoms were present, and the eruption appeared; but the greatest proof of all was the small local effect produced by the injection, for in only one was there a little areolar inflammation about the size of a threepenny piece.

Excluding cases that seemed so mild that they required no treatment, and those that I allowed to take the regular course for the purpose of contrast, and such cases as had to be removed to the hospital on account of landladies being unwilling to nurse them, I have treated in this way seventy-four cases in all. In five of these the eruption entirely disappeared. In forty-three the disease aborted on the fourth or fifth day of the eruption. Of mild cases—and by that I mean where they reached the pustular stage, but did not require to keep in bed—there were thirteen. Of severe cases requiring to keep in bed there were seven, and six were fatal. Of the fatal cases, one was first seen on the fifth day of the eruption, and was bleeding from the gums at the time. One tube was injected. The second case was just recovering from an attack of erysipelas which recurred all over the body (scarlatiniform); and there was only a little eruption on the calves of the legs to denote the exact nature of the disease. She was pregnant. One tube was injected. The third case was a woman aged seventy-two, who had an attack of bronchitis at the time, and she really died of that disease, although it was aggravated by the small-pox. One tube was injected. The fourth case, unvaccinated, occurred at the "change of life," and was desiccating very favourably, but suddenly died on the eighteenth day. One tube was injected. The fifth case gradually sunk. There was no other lesion that I could discover. The menses came on during the eighth day. One tube was injected. The sixth case was hæmorrhagic, and two tubes were injected. I was anxious to inject more, but was refused. All the fatal cases were females; and all occurred, with the exception of the last, before I deemed it prudent—considering I was only investigating—to inject more than one tube. I have had no fatal case where I injected three or more tubes. Of those in which the eruption disappeared, three had not been vaccinated previously, and two had. Of those in which the disease aborted, all had been vaccinated. Of the thirteen who had the disease mildly, only one had not been previously vaccinated. Of those who took the disease severely, four had been vaccinated, and three had not. Of the fatal cases, three had been vaccinated, and three had not. Of the total number of cases, nine were confluent, and the others were discrete.

In conclusion, from contrasting cases let alone or treated otherwise, and from the statements of others, I am more than ever convinced of the general correctness of my proposition. More thought and more investigation no doubt it will take to establish it, but these will be obtained through time.

Edinburgh, July 31st, 1872.

BATTLE-FIELD AND ACCIDENT SPLINTS.

BY A. MOFFITT,

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WHENEVER patients with fractured limbs, whether occurring in warfare or by accident, have to be transported from the places where the injuries have happened, it is most essential that splints of some kind should be applied before removal is attempted. Splints, however, to answer such emergent purposes, must be different in many respects from the permanent splints usually employed in the treatment of fractures; they should be light and portable, complete within themselves, capable of being rapidly applied, and so

simple that bearers of sick and wounded as well as the surgeon can be taught to use them.

Keeping in view these properties—namely, lightness and portability, completeness, rapidity of application, and simplicity,—I have devised two sets of splints with which all fractures of the limbs may be temporarily put up. These splints, after a series of trials, I have found to surpass my most sanguine expectations; and, in addition, I have had the satisfaction of knowing that they have been approved and recommended for use in the army by the Committee appointed by the Secretary of State for War to report on the Hospital Transport of the British Army.

Though designed more especially for military purposes, yet I am led to believe they are well suited also for use in civil life. In mining and manufacturing districts, or wherever accidents occur, medical men, when suddenly called upon to attend to fractured limbs, feel the want of some ready method of putting them up. A surgeon, furnished with these splints, when called to an accident, could, on the spot, in a few minutes, put up any fracture, and thus leave his patient in comparative comfort and safety, and give himself time to decide and get ready at his leisure any other apparatus which the peculiar nature of the injury might demand.

The splints are in two sets: one set is for fractures of the upper extremity—the arm and forearm; and the other set for fractures of the lower extremity—the leg and thigh.

The set for the upper extremity consists of two pads, two straps, two buckles, two splints, and an arm-sling. The pads are made of strong ticking, each made in two pockets, one of which (the larger) is for containing the stuffing, and the other (the smaller) for sliding the splint into. One end of the pockets is shut and the other open, but capable of being closed by a flap fastened with two tapes, when the stuffing and splint have been introduced. On the outside of each pad, running from one end to the other, stitched at intervals, is a piece of narrow webbing. This is for attaching the straps to on one pad, and for loops to pass the straps through on the other. The straps are of strong webbing, each furnished with a brass buckle. They are fastened to the narrow strip of webbing on the outside of one of the pads in such a way that their position can be shifted, but that they cannot be altogether removed; thus obviating the likelihood of their being lost. The splints are Duncan's ratan splints, altered in dimensions and other respects to suit the purpose. Each is three inches and a half in breadth, one nine and the other twelve inches in length. The arm-sling is made of half a piece of calico, a yard square, cut diagonally.

The set for the lower extremity consists of two pads, four straps, four buckles, and two splints. The pads are made similarly to those of the upper extremity, but larger to suit the splints. The straps and buckles are also arranged in the same way, but are longer, to go round the greater thickness of limb. The splints are Duncan's ratan splints, each four inches in breadth, one two feet in length, and the other one foot eight inches.

In time of war it is intended that a complete set of these splints be carried on each stretcher, and for this purpose the committee before-mentioned have provided pockets in the canvas of the new pattern Government stretcher.

The weight of the complete set is two pounds and a quarter. The different parts being attached to each other there is no fear of any of them getting lost. When the pads become dirty the stuffing and splints can be removed, and the covering and straps washed. Hair, wool, or even hay or grass, will, on an emergency, do for restuffing them.

The following are the directions for use:—

Fracture of the arm.—Rip the sleeves of the coat and shirt up their inner seams as far as the arm-pit, apply a suitable first dressing to the wound should such exist, make extension of the limb, and replace the broken fragments in their natural position. Now, having bent the elbow to a right angle, place the short splint on the inside of the arm, the long one on the outside, and buckle the straps sufficiently tight to prevent movement. If time and circumstances permit, apply a roller bandage from the fingers up to the elbow. That done, carry the forearm across the chest and support the hand and wrist in an arm-sling.

Fracture of the forearm.—Rip the coat and shirt sleeves as high as the elbow; apply a suitable first dressing to the wound, should such exist; make extension of the limb, and replace the broken fragments in their natural position. Now bend the elbow to a right angle, place the short splint on the inside, and the long on the back of the forearm, and buckle the straps sufficiently tight to prevent movement. This done, carry the hand across the chest, and support the whole of the forearm in an arm-sling.

Fracture of the thigh.—Lay the patient on his back; rip the trowsers up the outer seam as high as the hip; apply a suitable first dressing to the wound, should such exist; and make extension until the limb is the same length as the sound one, and the broken fragments are replaced in their natural position. Now place the short splint—one end close up into the perineum on the inside, the long one on the outside, and buckle the straps, the lower one immediately below the knee, and the upper round the pelvis. If time and circumstances permit, apply a roller bandage from the toes up to the knee.

Fracture of the leg.—Place the patient on his back; rip the trowsers up above the knee; apply a first dressing to the wound, should such exist; make extension, and replace the broken fragments in their natural position. Now place the short splint on the inside, and the long one on the outside, and buckle the straps, the lower one in a figure of 8, round the foot and lower ends of the splints.

The splints have been made by Messrs. Evans and Wormull, of Dowgate-hill, London, E.C., to whom belongs the patent of Duncan's ratan splints.

REMARKS ON

VERSION AND UTERINE TETANUS.

WITH CASES.

BY ALEXANDER MILNE, M.D.,

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IN a communication of mine to THE LANCET in October, 1870, I alluded to some points which I deemed of essential importance in the operation of turning—in fact, indispensable pre-requisites to success in the more difficult cases; and as my subsequent experience, which has been considerable, has served to strengthen and confirm the views I then advanced, I am desirous of again referring to the subject, while reporting a few illustrative cases.

The operation of podalic version, where the pelvis is of average size, the os uteri dilated, and the membranes entire, is one of easy performance; but where the liquor amnii is absent or has long escaped, where the parts have become swollen and dry, and the uterus has contracted firmly around the fœtus, we have the conditions of difficulty and even of danger. The difficulty is greatly enhanced if the contraction of the uterus happens to be tonic or tetanic, a condition that not very rarely obtains. I have seen not a few such cases, and where the contained body was grasped so firmly that extrication appeared a hopeless task, the idea of version almost utopian, and extraction by craniotomy or spondylotomy the only hope—a sorrowful one indeed! This tetanus of the uterus I have observed occasionally to mark the entire organ; at other times, and oftener, it appeared to be partial, a common place for it being the internal os, less frequently the external os. Sometimes it consists of narrow bands in some part of the cervix, having all the rigidity of a ring of iron. Whether partial or general, it grasps the fœtus with immense power, and, uncombated, renders turning utterly impracticable. I ought also to remark that, though more common in the absence of the liquor amnii, it yet occasionally exists prior to the breaking of the membranes, and indeed is a cause of their premature rupture.

Now, when we meet with a case of this kind, where the uterine contraction is continuous or tetanic, intense, extreme, and grasping the child as in a vice, what ought to be done? Chloroform, of course, must be administered, and very freely too; and often it relaxes the spasm in a wonderful manner, but I have seen it fail frequently in uterine

tetanus—nay, it usually fails in such cases. There was an impressive case, in illustration of this, reported to the Edinburgh Obstetrical Society in November, 1865, by Dr. Inglis, and where the late Sir James Simpson had to perform spondylotomy. "The patient," says Dr. Inglis in his report, "had been kept deeply under the influence of chloroform for two hours, yet the uterus remained nearly as firmly moulded to the body of the fœtus as before." Chloroform then being inadequate to the relaxation of this spasm, have we any other means or appliances of a more powerful kind? We have, and they are tartarated antimony and lobelia inflata. When the chloroform is ineffectual, recourse should be had to these. Give a grain of the antimony, and twenty-five minims of the tincture of lobelia inflata; afterwards, on the lapse of twenty minutes, place the patient under the influence of chloroform. The triad form a potent antispasmodic whose conjoint action is almost irresistible, and the spasm is overcome. The uterus relaxed, the hand now finds entrance, and version becomes a possible thing. I am convinced that reducing instruments may often by these means be stayed.

Hand to be employed.—Now, what hand ought we to employ in these extreme cases? This is a deeply important question, and one whose gravity we can scarcely overrate. A somewhat uncertain sound has been given forth on this question; some recommending one hand, some another, while others have ignored the thing altogether. The majority recommend the right hand, which (I say it advisedly) is the wrong one. (I must except Meigs, Lee, and Ramsbotham, who are orthodox on this matter, and have risen to the height and gravity of it.) The left hand, in the great run of cases, is the proper one to employ; and I hereby deliberately impeach the right one with many failures; with deplorable craniotomies and spondylotomies, not to speak of maternal injury. Almost any hand will succeed where it can float in abundant waters, and where there is a roomy pelvis; but in the more difficult cases, where space is scant and the parts are tumefied, commend me to the left one. It is the proper one in all dorso-anterior cases; and we shall succeed better with it even in dorso-posterior ones where there is fluid and space. The grounds for preferring the left hand I stated in THE LANCET, Oct. 15th, 1870, and have noticed them also in my work on Midwifery; I need not, therefore, take up space by reiterating them. I would only again repeat as forcibly as I can, Cultivate the left hand in version if you wish to avoid failure—nay, if you wish to conserve life. I have been baffled with the right hand; but I am happy and proud to say that I have *never* failed to turn with the left.

Shall we seize one leg or both?—There is only another point in connexion with this subject to which I would shortly refer, and that is in regard to the leg or legs to be grasped. In those difficult cases, to speak paradoxically, we can neither afford to seize both nor to want both—that is to say, there is little room to enable us to get hold of both, but it is better to have them if at all possible. The fœtus will then revolve more readily, and come down more speedily—nay, neither evolution nor descent may be accomplished if only one extremity be seized, as was seen in Case 6. Of course I allude to the extreme cases. More especially is it of importance to attend to this where the head is the presenting part. M. La Chapelle called attention prominently to this, and my experience of version warrants me in placing considerable emphasis upon it.

I now subjoin some brief notes of cases selected from many in which I have been engaged.

CASE 1.—June, 1869. Mrs. S—— (multipara). In labour for about twenty-four hours when Dr. Millar was called. Dr. Millar sought my aid; and on my arrival I found an arm hanging out of the vagina. The limb was swollen and discoloured; and I was informed that a woman had "made a pull or two" at it before the arrival of Dr. Millar. The os uteri was strongly contracted around the shoulder, and I ascertained by external manipulation that the entire uterus was in a state of peristent contraction. The liquor amnii had escaped the day before. I gave a grain of tartrate of antimony; and afterwards Dr. Millar placed the patient well under chloroform. I then introduced my left hand, and reached the feet in about four minutes. They were brought down without much difficulty, the uterus having relaxed greatly. Delivery was soon accomplished. The child cried in about forty minutes, and survived, the arm remaining sore for about a fortnight. The mother recovered well.

CASE 2.—July, 1869. Mrs. L—— (multipara). Under the care of a student. Had a note from Dr. Cairns (to whom the student applied) to attend as he was ill. I found the woman had been in labour for about fourteen hours. The liquor amnii several hours away; arm and loop of cord protruding externally; feeble pulsation in funis; the os rather rigid, and the whole uterus contracting moderately. Placed the woman under the influence of chloroform, turned with the left hand, and delivered pretty easily, the uterus having relaxed well. The child cried speedily, and survived. The mother got on well.

CASE 3.—Dec., 1870. Mrs. M——, (multipara). Had a message from Dr. Cairns to see this patient. Found an arm, swollen and livid, projecting from the external parts. It had been down for some hours; uterus contracting with immense power around the child; woman somewhat exhausted. Dr. Cairns placed her under the influence of the anæsthetic, and I introduced my left hand gradually until I hooked a leg, which I brought down; found the fœtus did not revolve. Passed hand up again and caught the other foot; turned readily and delivered, the head passing the upper strait with difficulty. Child dead; mother recovered.

CASE 4.—Nov., 1870. Mrs. ——, (patient of Dr. Furley, who asked my help). Shoulder and loop of cord presenting. Bag entire, but firm broad band of strongly contracting fibres about internal os; and external os rather rigid. Dr. Furley chloroformed patient, and I introduced my left hand and turned easily. Delivery was speedy, and child and mother got on well.

CASE 5.—Feb., 1871. Mrs. R—— (primipara). Patient had been in strong labour for twenty-four hours, attended by a female. At length Mr. Moir was sent for. I was called and found an arm presenting immensely swollen and dark coloured. It had been down for upwards of twelve hours. Uterus contracting strongly and persistently, the regular pains having almost ceased. Woman complained of some tenderness over abdomen, but her strength and pulse were fair. Gave tartrate of antimony and Indian tobacco, and afterwards chloroformed patient. Introduced left hand and seized both feet in about seven minutes; turned with little difficulty. Child died; mother recovered in three weeks. There was no peritonitis, but she remained weak from the profuseness of the after-discharge.

CASE 6.—May, 1872. Mrs. —— (multipara). This was an arm-presentation, under the care of Dr. Miller. The doctor brought down a foot skilfully, but the fœtus would not revolve, owing partly to the strong contraction of the uterus, but mostly to part of the head having come below the brim, and partly also, in my estimation, to only one leg having been seized. The doctor sought my assistance, and on arrival I found the following to be the state of matters. Leg and head jammed in upper strait; uterus contracting powerfully and continuously. Patient's strength fair. Dr. Miller chloroformed thoroughly, and I seized the leg presenting with four fingers of the left hand, pushing the head up with the thumb of the same. Failed to evolve. Proceeded with the same hand in quest of other foot; brought it down, and pushed up the head with thumb first, and externally with the right hand. Revolution speedily effected. Delivery was soon over, but the head passed the brim with difficulty. The child was quite dead, but the mother got on well.

I shall not comment on the foregoing cases beyond remarking that the unvarying success, so far as maternal safety and recovery are concerned, may be greatly credited to chloroform, and partly to the use of the *left hand*. In every case the shock of the operation was abolished, and thus an element inimical to recovery excluded. It is doubtful if in pre-anæsthetic days some of these cases could have been undertaken at all; or, if so, whether rupture of the uterus might not have been occasioned in one or more of them. There was antimony, opium, tobacco, and the lancet, it is true; but these relaxed with less efficiency and speed, and abrogated suffering and shock with less power than the great anæsthetic of modern times. Happy, then, is the obstetrician of the latter half of the nineteenth century; and ungrateful must he be viewed if he does not often think of Simpson, while heaving a sigh that he went home so soon.

Edinburgh, June, 1872.

THE LANCET.

LONDON: SATURDAY, AUGUST 10, 1872.

SELDOM is it that any scientific body opens its session with such a masterly survey of the chief problems before it as the Medico-Psychological Association at its last meeting in Edinburgh. In his introductory address Sir JAMES COXE touched on the four points in the field of lunacy round which controversy has most actively revolved: What are the causes of insanity? How is its growth to be checked? What are the results of asylum treatment? What can be done by moral and physical training?

Commencing with a criticism of asylum treatment, Sir JAMES COXE proceeded to estimate its results in checking the growth of insanity. The Lunacy Acts were passed under the belief that by multiplying asylums the number of cures would be increased and the propagation of the malady arrested. That belief, however, has not been justified. Partly through the more frequent occurrence of insanity, partly through the preponderance of the admissions over the discharges and deaths, the number of victims to the malady has risen immensely. If the prolongation of life in these institutions explains the phenomenon, that is no reason why they should be constantly multiplied. But how far have they diminished the disease? Granted that many admissions are discharged recovered, is the result due to the treatment or simply to the recuperative powers of nature? Taken early, the patient certainly does get well much oftener than when admitted at a more confirmed stage. But is the asylum to be credited with the recovery? Would not the patient have had an equally good chance if treated outside the asylum, with change of scene and surroundings, with proper regimen and therapeutics? The question is so difficult to answer that the extension of asylums has yet to justify itself; nay, it can be proved that, admirably as they are conducted, they are sometimes put to an unreasonable use. Detention of patients, in Sir JAMES COXE's opinion, is prolonged far beyond the stage at which any good can be effected. The treatment having hopelessly failed, treatment elsewhere, though possibly efficacious, is rarely thought of. Again, asylums are said to improve and humanise their inmates; but do they not as often degrade and deteriorate? There is much in their routine to confirm the malady; there is much in ordinary life, with its variety of incident, to restore healthy action. Sir JAMES COXE, indeed, does not shrink from saying that he has seen recovery produced by home treatment where incurability would have followed removal to an asylum. Beyond its power of control and isolation, that institution has no value for Sir JAMES COXE; while the experience of its superintendent in dealing with the insane has its bad as well as its good side—its tendency to foster belief in exceptional measures and inspire unwarrantable self-confidence. Recovery from insanity is far less due to the genius of the prescriber than to the observance of broad rules of hygiene. Purgatives, hypnotics, anodynes, and tonics are useful auxiliaries; "but a comfortable meal is the best of sedatives, and abundance of exercise the best of hypnotics."

Deterioration of the body rather than an exclusive affection of the nervous system is the main cause of insanity Insanity from sunstroke, from tumours in the brain, is exceptional and generally incurable. The malady has, κατ' ἐξοχήν, been ascribed to the forces of civilised life—to the tear and wear of competition. But this induction Sir JAMES COXE regards as untenable. It is among the lower and ill-conditioned orders, not among the more refined and better cared for, that insanity swells its numbers. It is the pauper lunatic that creates the demand for asylum-extension. Dissipation in its various forms, overwork, meagre fare, lack of ventilation, neglect of moral culture—the forces adverse, not auxiliary, to civilisation, in a word, are the chief factors in the production of insanity. Emotional excitement among the upper classes is a more frequent cause of the malady than among the lower; but even in this case physical deterioration is at the root of it. "There is no disease less likely to supervene in a healthy constitution than insanity." Even where insanity occurs, as in delusion, when no physical disease exists, yet deviation from healthy action, either in the patient himself or in his ancestors, must have preceded the delusion. For the cure of such a patient the proper course is not to argue with him, but to improve his bodily health. His mind strengthens with his physical state, and the delusion disappears as the power of rightly comparing things and estimating their relations is recovered. In all its phases, in fact, insanity originates in some form of bodily disease; and its main preventive is the preservation of bodily health. How is this to be achieved on that national scale which can alone affect the growth of insanity? By education; but education in a far more catholic sense than it has hitherto borne. Religious dogmas which enter so largely into public teaching may point the way to salvation, but "they do little or nothing to incline our hearts to keep the moral laws." If among the upper classes the non-observance of these, with the neglect of physical training, impairs bodily health and issues in insanity, how much more must not the same evil result prevail among the lower, whose neglect of moral and physical laws, whose non-education, in short, is so notoriously general. Let us adopt other tactics against the multiplying malady. Not by waiting till insanity has been produced and then struggling to cure it, but by stepping in before the mischief has been done, shall we arrest its growth. We have an ever-growing number of lunatics, for whom the nation is subjected to an ever-growing tax. Why should not the money, now consumed by thousands of these useless beings, be spent in maintaining their health and enabling them to mingle with vigour and effect in the affairs of life? Hygiene languishes because of the ignorance of the people. We preach the necessity of pure air to hearers who know nothing of the laws of respiration. Let every member of the common herd be taught in what manner and on what grounds he should so regulate his life as to keep his health and do his duty to his neighbour and himself. His accredited teachers, however, are themselves

too often ignorant of the importance of hygienic training; and legislative enactment is resorted to for the counteraction of his evil habits and the rectifying of his conduct. But in spite of all this curtailment of the liberty of the subject, drunkenness, pauperism, lunacy, and crime increase. Drunkenness, indeed, is proposed to be remedied by the forcible detention of the drinker; while the means by which that vice has within half a century disappeared from the upper classes—education, refinement, higher fields of enjoyment,—are withheld from the lower, with what results, we know!

Ignorance of the human organism, with the laws which regulate it, lies at the root of all the distempers of society; and till this is replaced by knowledge, the reports of the Registrar-General will continue to show an undiminished death-rate, and those of the Lunacy Commissioners an increase of insanity. Even our own profession, with too few exceptions, directs its activity more to the restoration of health than to the prevention of disease; while from the teacher and the clergyman up to the legislator little or no intelligent appreciation of the bane and its antidote inspires their work. This, the thesis we have often maintained, is again reinforced by the high authority of Sir JAMES COXE, who speaks from an official coign of vantage and from the experience of more than forty years. Self-knowledge, moral and physical, in substitution for the excess of intellectual training now prevalent; bodily training, not in the sense of the athlete only, but that modified army discipline which develops the constitution while teaching masculine accomplishments,—such are the remedies in which, if early enforced and diffused through all the people, Sir JAMES COXE sees our best escape from the disorders of society. So far from being a "disease of civilisation," insanity is a disease of ignorance; and the only way to check its growth is to let every man know the fabric and functions of his own body, and the relations in which he stands to the surrounding world, moral and physical. No class of men appreciate this more than our own profession; but our mode of dealing with the problem—admirable, so far as it is seen, in the regulation of our asylums—is too restricted. It is for our medico-psychologists to impress these facts upon the Legislature, and for the profession at large to prepare society for legislative action.

THE Registrar-General of England sometimes reminds us of that well-known character in fiction, Mr. Micawber, with whom the balance of sixpence on the wrong or on the right side of the account just made the difference between happiness and misery; for the inferences which he draws from his returns are apt to be tinged with gloom or radiant with hope, according as there is a small variation in the death-rate above or below the average. His last Quarterly Return is a composition in the major key: "The returns present generally favourable results; the community has been comparatively healthy and prosperous." The only qualification is in the gentle admission that things are even yet not quite perfection, for "much remains to be done in the supply of pure water and pure air, and in the arrangements for the purification of both town and country."

In the first place, the people were marrying in the March quarter—the marriage returns being always three months in arrear of those of births and deaths—at something like the rate that used to prevail, but which, for whatever reasons, has not obtained since 1866; and this is attributed to the "improvement in the prospects of the marriageable population." This theory of the relation between material prosperity and marriage seems to be borne out by the fact that in the manufacturing and mining districts there has been of late a considerable increase in marriages, while in the agricultural districts they have either stagnated or positively declined in frequency. The Registrar-General used to hold that the price of wheat was a good index of marriage prospects; but, notwithstanding that wheat was dearer in the last March quarter than in the same quarter of 1871, and that meat and other necessaries of life have become greatly enhanced in value, there has been a gradual rise in the marriage-rate since the beginning of last year, culminating in a point higher than has been reached since 1866. With high prices there clearly must have come increased means to the bulk of the marrying community, or the result would hardly have been what we see.

The birth-rate in this country is now pretty constant at 35 or 36 per 1000 per annum, and this rate was fairly maintained last quarter, when the births were relatively as numerous as they were in the March quarter, which is ordinarily found to be the most prolific season of the year; marriages being by far the most frequent in the December quarter, deaths in the March quarter. The agricultural counties in respect of births show a falling off, as might be expected from the migration which is so extensively going on of young adults from those districts. Lord SHAFTESBURY alluded the other day to the influence of the towns in this respect, describing them as "great wens sucking up the population from all parts of the agricultural districts." A larger and larger proportion of the reproductive power of the country is every year being gathered into these "wens," and, apart from the social aspects of this tendency to aggregation, the hygienic problems involved therein are such as demand the immediate and most serious attention of statesmen, of men of science, and of all who are in anywise capable of assisting in their solution.

The mortality of last quarter was equivalent to an annual rate of 21 deaths to every 1000 of the population, the average of ten previous June quarters being 21·8; so that 8 lives in every 10,000 persons, which would be about 17,600 out of 22,000,000, may be taken as the saving of life represented by the reduced mortality of last quarter, supposing it were maintained for a whole year. Comparatively, no doubt, this is rightly spoken of as a "favourable result," inasmuch as there have not been half-a-dozen June quarters since registration began in which so low a death-rate as 21 per 1000 has been recorded. What, under a good sanitary organisation, the average mortality of the second healthiest quarter of the year may become we need hardly speculate upon at the present moment; under existing circumstances it is enough to be thankful for the small mercy of ·8 per 1000 reduction. In the details of which the general mortality is made up we find enough to modify somewhat the favourable impression created by the mere aggregate re-

sults. Hardly can it be satisfactory, for example, to read of small-pox as "still a fatal and prevailing epidemic"; and we derive little comfort from being told that otherwise the mortality would have been unusually low. Whether the facts justify this statement, or whether small-pox has simply filled the place of scarlet fever or some other form of epidemic, is a matter about which a difference of opinion may prevail; what we are concerned with is the broad fact that to seven of the chief zymotic diseases close upon one-sixth of the whole mortality was due last quarter, and that such proportion differs in very slight degree from that observed in the June quarters of 1870 and 1871. So long as this state of things continues it is obvious that we are a long way from the point at which we should be warranted in congratulating ourselves about the healthiness of the country.

There is a great deal in this Return, as usual, about which much might be written, but it does not occur to us that there are any very striking points to notice. The fact is, there is a tendency in official reports of this kind to become stereotyped, which can only be avoided by a constant anxiety on the part of those who are responsible for them to keep up with the requirements of the times. The Registrar-General's Office has done good work for the public in the analysis and exposition of the facts contained in the registration returns. But it must be quite obvious that, with an enormously increased organisation for sanitary purposes such as the new Public Health Act will inaugurate, the demand will arise for more ample and varied statistics of mortality than have hitherto been considered necessary. Upon this subject, however, we may have to speak more definitely on a future occasion.

DR. VANDYKE CARTER has been good enough to forward us a copy of a Report upon the prevalence and characters of Leprosy in the Bombay Presidency. This report is based upon returns collected in 1867 at the instance of the Government, showing the residence, sex, age, caste, and hereditary predisposition (if any) to the disease, of every affected person; the final object in view being to afford definite data upon which to base measures, if these could be carried out, for the relief of the leprous, and possibly in due course the protection of the community against the spread of the disease. The Report is a most valuable one. We propose on the present occasion to refer to the distribution of leprosy, and on a subsequent one to examine the suggestions made by Dr. VANDYKE CARTER in regard particularly to the all-important question of the segregation of the leprous, upon which Dr. CARTER and others have now expressed a very decided opinion.

The Report, as a whole, shows, in the first place, that the worst form of leprosy largely prevails in Western India, and especially in the Mahratta country so called; that malaria, scurvy, cholera, and syphilis have no definite connexion as cause and effect with the disease; nor, indeed, does the latter appear to be attributable to any known subvarieties of diet, to special occupation, sanitary defects, or particular social habits; but that the malady, being hereditarily transmitted, is handed down from parent to son, and concentrated, as it were, in particular family lines, in an especial manner, in consequence of the influence of caste. All castes are pervaded by leprous taints, but most of all those of primary aboriginal descent. On the whole, it is more common in males. Dr. CARTER remarks that "it is also found that, although the disease has a clear tendency to be hereditarily transmitted, yet it most frequently seems to arise spontaneously; but, as it has then the same physical and limited sexual characters as when derived by known descent—all other supposed causes, as climate, diet, &c., acting equally on both sexes,—some special cause may be inferred, which (the question of contagion apart) can hardly be other than an innate predisposition." There can, we think, be no doubt whatever that the disease is inherited in a much larger number of cases than is at present supposed. A leprous taint in family histories is one of the things most likely to be carefully concealed, and most stubbornly denied; and besides this, *atavism* is undoubtedly common—an index in itself of how much disease may be due to indirect hereditary transmission. It is pretty certain from what is stated in the Report, that climatic and dietetic causes which lead to a deterioration of health, though not immediately inducing, yet greatly favour the development of leprosy. In regard to the causes of those cases of leprosy which, after making all allowance for hereditary transmission, must really for the present be regarded as arising *de novo*, the evidence in the Report is purely negative. The average number of lepers to population is, in the Bombay Presidency, 1 to 1000; the proportion of sexes amongst lepers is, on an average, 4·38 males to 1 female.

As illustrating some of the foregoing statements, the following particulars may be mentioned:—In respect of the influence of climate, it turns out that the disease occurs in greater frequency in two localities having a very different climate; as in the Southern Concan (seaboard), on the one hand (1 case in 430 of the population), and the Deccan (1 in 550), on the other. A map is given by Dr. CARTER to illustrate this point. The undue prevalence of leprosy does not appear to be explained by density of population.

We remarked above that the primary aboriginal races were chiefly affected. Dr. CARTER tells us, in regard to the Mahrattas, that "a long tract in the Deccan near to the Ghâts and a similar shorter tract in the Concan, rather to the south, the home of these people, are those most distinctly the seat of the disease," and in fact it prevails uniformly and commonly amongst the Mahrattas. This still further appears from a perusal in the appendix to the Report of the special notes on Poona, Ahmednuggar, and Rutnagherry, &c. At this latter place the disease is commoner than in any other part of the Presidency, in the seat of the former centre of the Mahratta nation, including its extension to the Deccan, and, adds Dr. CARTER, except in "some such racial aspect, it seems difficult to account for the local intensities of leprosy." The complete intermarriage, too, of the people of the part is of the most perfect kind. Those who are interested in the subject will do well to refer to the facts connected with caste in the Report itself and in the Appendix, which renders it probable that leprosy was introduced into India in various ways and at various times by the progenitors of particular castes, the "result being its wide distribution, frequent local in-

tensity, and, owing greatly to the caste institution, its long persistence in the land." It may be interesting to the reader to be informed in regard to the question of diet, and especially the eating largely of fish, as influencing leprosy, that at Rutnagherry, where the disease is most frequent, it occurs in greatest amount in inland parts, and not on the sea-coast. At Ahmednuggur, where the disease is nearly as extensive, fish is only moderately consumed, and "the principal food are grain and pulse," &c. We have said enough to show in what an interesting way the Report has been drawn up, and what valuable facts it contains. The two points in regard to the prevalence and spread of leprosy which came out with strong prominence in Dr. CARTER'S Report are the great influence of both hereditary predisposition and caste rules in securing the continued spread of the disease in India. In contrast to this positive information is the negative evidence in regard to the origination of the disease *de novo* from climatic or dietetic agencies. We observe the term "white leprosy" in the Report. Dr. CARTER will agree with us that it ought never to be used for Leucoderma, the disease to which it is applied, since this has nothing whatever to do with leprosy.

WE have received the Report of the Second Annual Meeting of the Irish Poor-law Medical Officers' Association, which seems likely to render important service in improving the condition of the Poor-law medical service of the sister country. Notwithstanding the admitted excellence of the Irish dispensary system as far as regards the interests of the ratepayers and of the sick poor, it is yet susceptible of much improvement as regards the interests of the medical officers to whom it is indebted for its success. These gentlemen have many grievances, among which smallness of pay, extent of districts, and the lax distribution of orders for medical relief occupy prominent positions. In Ireland, as in England, there is a disposition on the part of official persons to impose upon doctors statutory duties, often of an irksome and arduous character, "without fee or reward"; and the severe and long-continued labours of the Poor-law medical officer have hitherto led to no consequent promotion in the service, and to no adequate provision for old age. The members of the Association seek to remedy the evils of which they justly complain, and to remedy them by the legitimate exercise of their political influence. Under the presidency of Sir DOMINIC CORRIGAN, and under a list of vice-presidents many of whom are members of the House of Commons, they intend to elect a number of county representatives; and to make it the duty of these gentlemen to impress the views and needs of the Association upon their representatives in Parliament. They call upon the profession to question candidates for seats, not only about matters of imperial policy, but also "How would you vote upon a Poor-law Officers' Superannuation Bill?" and to do their best to oppose all who on this and kindred points were opposed to the interests of the profession. There can be no doubt that the influence of doctors, if skilfully organised and carefully directed, might become an electioneering engine of great power and force.

The Association expressly disclaims rivalry with, or opposition to, any other medical or medico-political body; and professes no more than to be supplementary to the previously existing societies. The annual subscription is fixed at only five shillings, in order that no pecuniary barrier may interfere with the enrolment of all the Poor-law medical officers in the country. We sincerely hope that this general enrolment may be speedily effected, because the success of the movement would be greatly promoted by the unanimity of those whom it is designed to benefit. Such unanimity has not yet been attained; but the Association has been joined by very nearly one-fourth (243 out of 1019) of the Poor-law officers, and there can be no doubt that the recent very successful general meeting will add materially to its numbers. We are pleased to observe that Dr. ROGERS, the indefatigable President of the English Association, not only went to Ireland to attend the meeting, but also moved the adoption of the report.

Medical Annotations.

"Ne quid nimis."

MEDICAL QUALIFICATIONS IN JAMAICA.

As our readers are aware, a Bill has been brought forward to give all diplomas recognised in Canada a title to registration in Jamaica. But an amended Bill has been introduced as the result of the investigations of a Committee of the Council into this subject, extending a right of registration to any medical practitioner already legally registered as such in any British colony, or part of such colony, even though he be not registered as such in the United Kingdom under the Medical Act, or to any medical practitioner who offers himself holding a degree, a diploma, a licence, or a certificate of any kind that bears genuine testimony to the fact of his being properly qualified, in whatever school he may have obtained his qualifications. The only justification of this measure is the alleged deficiency of medical men with British qualifications in the island. This is certainly a serious fact, but it is not necessarily a reason for departing from the principles of the present law, which requires of all medical men seeking registration either the possession of British diplomas or the passing of a medical examination before a Local Board. We warn the Legislative Council against opening the floodgates to all who can produce diplomas or degrees, which is done by this new Bill. It is better to have a rather short supply of good doctors than a full supply of bad ones. The case of Don José J. Navarro, a native of Cuba, does not call for so serious an alteration of the law. His diplomas would not be recognised in England, though he seems to be under a different impression. If we mistake not, one of the colleges from which he boasts of a qualification no longer exists; and he does not allege that he passed any examination to get the qualification in question. The Jamaica law is severer than our Medical Act, inasmuch as it imposes fines and other penalties on unregistered persons. Our Act simply withholds from all unregistered persons the right to recover, and forbids the use of false titles conveying the impression that the person using them is recognised as a legal practitioner. The sense of grievance on the part of the unrecognised practitioners in Jamaica has been intensified by preventing Don José J. Navarro from continuing in his attendance on a fellow Cuban with small-pox, and insisting that the Cuban should be attended, for the sake of greater attention to isolation, by a registered

English practitioner. We think this an injudicious and excessive use of the law in Jamaica. At the same time, while willing that Cubans should have a Cuban doctor with a Cuban qualification, or with none if they please, we strongly object to the legalisation of all and sundry diplomas; and we do so in the interest both of the colonists and of medical science. This Bill cannot become law without the assent of Her Majesty in Council, and we trust that this will not be given to it in its present shape. There is an extensive trade going on in diplomas, and it is necessary to be more than ever careful not to recognise any but good and sound qualifications. The Government will not act in this matter, we trust, without consulting the Medical Council.

THE CONTROL OF THE LONDON WATER COMPANIES.

UNDER the Public Health Bill the Local Government Board will acquire on the 1st of January next the existing powers of the Board of Trade over the London Water Companies. As originally proposed, this transfer of powers was to have taken place forthwith, but as an important inquiry is now being conducted under the auspices of the Board of Trade relative to the introduction of the constant supply system, it was deemed advisable that this inquiry should be completed before the change was effected. The President of the Board of Trade took occasion during the discussion on this subject in the House of Commons, to warn Mr. Stansfeld "that unless his powers for the regulation of the water-supply were greater than those which the Board of Trade possessed, or unless the supply of this great metropolis with one of the chief necessaries of life ceased to be confided exclusively to trading companies, whose sole duty was to make a profit for their shareholders, he would find his powers for good were very limited." Mr. Stansfeld will no doubt lay this warning of his colleague to heart, but it would be interesting to know how long it is since Mr. Chichester Fortescue made the discovery of the impotence of his own department in the matter, and whether he has ever taken any steps to remedy it. Did he countenance last year Mr. Bruce's weak surrender to the water companies implied in the withdrawal of the Bill which would have enabled the Metropolitan Board of Works to acquire the control of the water-supply, and the substitution for it of the second Bill, which preserved the reign of the companies? But in any case it is plain, after what he has now said, that his support may be reckoned on the next time it is proposed to legislate for putting an end to the monopoly of these "trading companies." We hope that some means may be found to obviate the necessity for any delay in such legislation which Mr. Kay Shuttleworth pointed out would arise from the transfer of powers to the Local Government Board not taking place until January. No doubt if the Government intend to deal with the companies next session, certain notices will have to be given in November; but cannot the Board of Trade do that?

OUR HOLIDAY-MAKERS.

COMPARED with continental nations the English poor work very hard, and it is to be regretted that, when they have a holiday, they do not enjoy it after a more rational fashion than they do. Our climate is a very treacherous one, and when we say that a large number of quiet people residing in the suburbs of London are not sorry when a holiday turns out wet, it may seem tantamount to saying that these quiet people are, at the same time, a very selfish set. The fact is, however, that when a large number of heavily-laden pleasure-vans pass through the neighbourhood they know what to expect on the return at midnight. The singing is on a huge scale, especially the choruses, and the bandsmen are often too much elated with the day's libations to give much heed to time or tune. Noise is the object to be attained, and to do them justice they generally succeed. Pleasure-vans passing at intervals during the night in this way, especially when varied with an occasional traction-engine shaking the houses like an earthquake, render night hideous to invalids and people with overworked brains, to say nothing of the frights they cause to children. Nor is Sunday night always free from much of this noise and turmoil. As a rule, however, the early Sunday morning happily is without the noise of the market carts and drovers that form the pleasant accompaniment of sunrise on other days. It is not, therefore, to be wondered at that peaceful inhabitants of our London suburbs welcome a downfall of rain on holidays. If it damps the clothes it damps the spirits of the living cargoes; it relaxes the parchment of the drums, and imparts to the wind instruments a wheeze that is far from unpleasant under the circumstances. It is to the effect of skittles and beer on the spirits of holiday-seekers that decent people object. Probably there are very few persons so churlish in disposition as not to be gratified at seeing fathers and mothers with their little ones making a trip into the country where they can inhale a pure atmosphere into their lungs and gladden their eyes with the verdure of summer. But they would prefer that the nocturnal return to town should be made with a little less of that triumph and noisy exultation so suggestive of exaltation from beer.

SOME "RAILWAY CASES."

IN *The Times* of Saturday last there occurred in the Law Reports a batch of "railway cases," some of which present points of interest for our readers.

In one case, Paullich *v.* the London and North-Western Railway Company, the plaintiff had received a shock owing to the jerking of his carriage from the sudden breaking of a coupling iron. The shock and its consequences do not seem to have been disputed, but, by the Judge's direction, the plaintiff was nonsuited, because it could not be shown that the breaking of the coupling iron was due to any fault or neglect on the part of the company.

In another case, Deiss *v.* the Great Eastern Railway Company, the plaintiff had put his foot through a faulty piece of flooring in one of the company's stations, in consequence of which he had sustained serious and complicated injuries, incldding concussion of the spine and loss of eyesight. The plaintiff's claim for direct and indirect damages amounted to £2000; but the jury finally made an award of £59 "for personal sufferings and medical expenses," and nothing for anything else. In this case the bulk of the medical evidence was in favour of the company. The medical witnesses all admitted a sprained ankle, but the symptoms of concussion of the spine &c. were entirely *subjective*, and facts were elicited at the trial concerning the plaintiff's previous history which seem to have convinced the jury that such subjective facts could only be admitted in this case with the greatest amount of caution. The damages claimed were excessive, and this alone did much to prejudice the plaintiff's case in the eyes of the jury. In summing up the case, the Judge (Mr. Baron Martin) made the following remarks:—"As to the medical expenses, it appeared that, with the exception of two or three small sums, the expenses had not been paid; and it was unfortunate that in railway cases the practice appeared to prevail of making charges which were not paid by the patient, but were made in the hope of getting them out of the company."

A third case was that of a commercial traveller who

brought an action against the Lancashire and Yorkshire Railway Company. The plaintiff was forty-five years old, and in the enjoyment of an income of about £300 a year. The accident occurred in March, 1871. The symptoms were at first trivial, and made that insidious and continuous progress so characteristic of concussion of the brain and cord. In February of this year he had a "paralytic stroke," and at present his mental faculties are said to be irreparably gone. The defendants did not dispute the case, and the jury awarded £1200 damages. The learned Judge, in summing up, told the jury that they were not to consider the railway company as bound to provide an annuity for the sufferer, for such a view was inconsistent with law and justice, and if it were to be taken would lead to the result that he himself would in like case be entitled, as he found by calculation, to a verdict for £100,000, a little more than Mr. Justice Blackburn, who would, as that learned judge had on a previous occasion stated, get only £97,000. Mr. Holker said that no doubt his lordship would be properly entitled to such a verdict.

A fourth case was that of a gentleman who had, owing to concussion in a railway accident, been incapacitated for nine weeks from following his business. Nervous symptoms had supervened after a blow over the eye. The jury awarded £125 damages.

THE INTERNATIONAL OPHTHALMOLOGICAL CONGRESS.

THE meeting of the International Ophthalmological Congress in London has been an event of considerable importance to that branch of the medical profession. In every such assemblage, as a matter of course, papers will be brought forward which would hardly pass the scrutiny of any strict and impartial committee of revision; but, equally as a matter of course, there will also be many which are the results of real progress in the science to which they refer. At the first congress Professor Donders explained those researches into the nature and varieties of astigmatism which, more even than any other part of his work, have made his name famous. At the second, the improved methods of extracting cataract were submitted to the test of a discussion guided by vast and varied experience; and the time-honoured flap operation may be said to have been finally abandoned in all but exceptional cases. At the third, just concluded, perhaps the most striking features were Dr. de Wecker's suggestion to incise the sheath of the optic nerve in cases of neuritis; and Mr. Power's case of transplantation of cornea from the eye of a rabbit into that of a staphylomatous child. Besides these there were many contributions which, if not of striking novelty, were yet of great practical value; and there was matter for much congratulation in the large number of Americans who took part in the proceedings, and who, by their most cordial and earnest invitation, carried with them the votes of a great majority of the Congress in favour of holding the meeting of 1876 in New York. We purpose in an early number to give a general *résumé* of the proceedings.

PLASTIC APPARATUS IN SURGERY.

DR. SAMUEL ST. JOHN, of New York, has contributed a very practical paper on this subject to the current number of *Hay's American Journal of the Medical Sciences*, and the observations he records seem to us deserving of the attention of surgeons in this country. After a short introductory sketch as to the past and present treatment of fractures, the author goes on to substantiate the expression of a conviction with which he sets out—namely, that no other apparatus is so successful for the treatment of this class of surgical injuries as the so-called immovable apparatus, and that no other variety of that apparatus is so good as that made with gypsum or plaster-of-Paris. The author appeals to the records of the Bellevue Hospital, where this treatment of fractures has been most extensively pursued; and he has tabulated the results of 187 cases of simple, and 26 cases of compound fracture. Among the results claimed for this method we may notice freedom of the patient to move about. The routine plan of treatment of simple fracture of the leg at Bellevue Hospital has been, to put it up immediately, and get the patient upon crutches the next day. Malgaigne observed that "for the patient to leave the bed is of no therapeutic utility; by it the surgeon only aims at pleasing the patient, at dazzling the eyes by a kind of *tour de force* which is not wanting in originality." As regards fractures of the femur, in which Malgaigne declares this practice to be specially fraught with danger, Dr. St. John shows, by his record of 50 cases of this very injury, that the average result was superior to that obtained by any other method, and in which it so happened that the two worst results arose in cases confined to bed for other injuries during the consolidation of the fracture. A patient with simple fracture of the femur treated by the gypsum apparatus may be out of bed on crutches two or three days after the fracture. For a description of the various materials to be employed, and the different methods of their application, so as to meet the exigencies of surgical practice, our readers must refer to the details in the paper itself. Our author claims that the results obtained at Bellevue Hospital from 192 cases of simple fracture (50 being of the femur) and 26 cases of compound fracture are equal, and in some fractures better, than those obtained by other methods; that the union is not delayed by it; and that it may be safely applied at once in fractures of all bones. A word in conclusion. We agree with a remark quoted from a prominent American teacher, to the effect that, without distrusting the method itself, special experience is required to apply it properly.

A WORKMAN'S TOWN.

LORD SHAFTESBURY has again been justifying the delicate compliment once paid to him by Sheil, that "he made humanity one of 'Shaftesbury's characteristics.'" On the 3rd inst. he laid the first stone upon an estate at Wandsworth, known as the Shaftesbury Park Estate, which has been acquired by the Artisans, Labourers, and General Dwellings Company (Limited), and is to be laid out as a workman's town in twelve hundred dwellings. The formation of the company dates from 1867, when railroads and other enterprises had improved away the houses, and working men were to be provided with substitutes combining fitness and economy with the latest sanitary improvements. These dwellings, moreover, were to become the property of the working men themselves in the course of a stated number of years, by the payment of a small additional rent. On every estate bought by the company a suitable space will be reserved as recreation ground, a co-operative store will be built for the special behoof of the tenants, and public-houses will be absolutely forbidden. The Shaftesbury estate consists of forty acres, and, by the vicinity of railways, every facility is furnished to the working men for reaching and returning from their labour. The houses are to be thoroughly drained, well supplied with water, and constructed of good materials upon sound principles. School accommodation, a lecture-hall, and a recreation-ground, after the model of a flower-garden—a not very wise design, as Lord Shaftesbury said—are to form features of the "town." The houses are to be of three kinds, not only for artisans, but for clerks, while each house

will be a distinct tenancy appointed with every sanitary and domestic convenience. In laying the foundation-stone of such a life-centre, Lord Shaftesbury was in his element, and in the address which followed gave fresh illustration of the wise, genial philanthropy and the hearty British love of domestic enjoyment which some of his critics seem to grudge his possessing. Would that all our aristocracy held Lord Shaftesbury's views of hygiene and education, or were so ready to subscribe to the Juvenalian dogma, "Nobilitas sola est virtus."

HIGH PRICES AND INFECTED CATTLE.

THE high and increasing price of provisions and coal becomes a very serious question for the poor and our large hospitals and charitable institutions. Let us consider for a moment what a serious item of expenditure coal is in an establishment of the size of St. Thomas's Hospital. And a very large proportion of the patients in public institutions require, at some stage or other of their illness, to be well fed; and beef-tea, soups, meat, and milk form the most important elements in every hospital dietary. It is very natural, but very unwise, for people to express indignation at the orders issued by the Veterinary Department of the Privy Council in regard to foreign cattle. It is even questionable whether these orders are stringent enough. As it is, a large portion of our home-bred cattle are attacked with foot-and-mouth disease, or perish of pleuro-pneumonia; and we do not want to have rinderpest reintroduced in our midst. It might even be preferable to prohibit the introduction of live meat altogether into this country from abroad, or at any rate to exclude these animals from all contact with those of our own, rather than run the risk of encountering another epidemic of cattle plague. A larger amount of meat is probably consumed by our town population than formerly, on account of the general rise in wages; but if meat retains its present prices it is clear that it will be quite beyond the power of the labouring classes to purchase it; and the less the supply of fuel the greater is the amount of food required. After all, the burden falls, perhaps, most heavily upon householders of limited and fixed incomes; and least of all upon the domestic servants of the upper or richer classes. The funds of our hospitals will, we fear, be very gravely taxed during the coming winter; but we may congratulate ourselves on one thing—that the subscriptions of the charitable will not be diverted to supply aid to the sick and wounded of two belligerent armies. Meanwhile, we shall have to feed a force in the field at home during the autumn manœuvres.

THE HEALTH OF THE ARMY.

WE gather from the Blue-book of the Army Medical Department, which has just been presented to Parliament, that the weekly returns forwarded to the department for the fifty-two weeks ending Dec. 30th, 1870, show an average strength of 75,305 non-commissioned officers and men in the United Kingdom, among whom there occurred 60,906 admissions into hospital and 697 deaths; and the average constantly non-effective from sickness was 2905. These numbers give the proportion of 809 admissions, 9·26 deaths, and 38·58 constantly sick per 1000 of mean strength. The Report also contains a table showing the sickness, mortality, and invaliding, and the proportion constantly non-effective from sickness per 1000 of mean strength in the army at home and abroad during the year 1870, and on the average of the ten years 1860–69. The admissions have been slightly higher than in 1869, but under the average of the last ten years. The increase was chiefly in China and Japan, and in India. The ratio of mortality was much lower than in 1869, and was 2·47 per 1000 under the average of the decennium. The decrease was most marked in India, Bermuda, and Ceylon, and the Straits Settlements. There has has been a larger number of invalids sent home, chiefly from the Cape and all stations to the eastward of it; but this has been attended with a very slight increase in the proportion finally discharged as invalids at Netley; the latter, however, has been 3·19 per 1000 above the average of the ten years, the increase being chiefly among those from India and Ceylon and the Straits Settlements. The mean daily sick has been a little under the proportion in 1869, and shows a decrease of 5 per 1000 compared with the average of the last ten years. Among the Colonial Corps there has been a marked increase in the sickness and mortality in Ceylon and Labuan, due to the very unhealthy state of the detachment in the latter island. There has also been a great increase in the admissions into hospital in China. In Western Africa the ratio of mortality was less than half that of the preceding year.

DR. LIVINGSTONE.

DR. LIVINGSTONE'S despatches, addressed to Lord Clarendon at the Foreign Office, and his subsequent letters to Dr. Kirk and Lord Granville, have appeared as official documents. They bear all the best characteristics of their author's style, and will form the subject of appreciative and animated discussion in the Geographical section of the British Association. The energy and even light-heartedness of the Doctor are wonderful, and the range of subjects he takes in is almost as vast as the extent of the ground he has covered. One item we must extract, for the benefit of the Anti-Vaccination League, from his letter to Earl Granville, dated Ujiji, December 18th, 1871:—"The mortality by small-pox in this region is so enormous that I venture to apply to Government for a supply of vaccine virus. . . . . Many intelligent Arabs have expressed to me their willingness to use it. If I remember rightly, Lady Mary Wortley Montague brought the knowledge of inoculation from Turkey. This race, though bigoted, perhaps more than the Turks, may receive the superior remedy, and if they do, a great boon will be conferred, for very many thousands perish annually, and know no preventive. The reason for my troubling you is, I do not know any of the conductors of vaccination in London, and Professor Christison, of Edinburgh, who formerly put the virus up in capillary tubes, may not now be alive. The capillary tubes are the only means of preserving the substance fresh in this climate. If your Lordship will kindly submit my request to vaccinators to send these tubes charged with matter, I shall be able at least to make an effort to benefit this great population." True to his Christian mission, Dr. Livingstone seeks to "heal diseases," as well as to "redeem the soul from destruction." If posthumous fame has any value for this high-souled man, how sure must be his reliance on living not only in the admiration of the scientific future, but in the fond memory of emancipated, enlightened, and Christianized generations of Africans yet unborn.

THE CHOLERA.

THERE is little to report this week about the progress of the epidemic. The disease does not appear to have advanced in a westerly direction during the last ten days, but, as we have already indicated, it has obtained a footing in Berlin, and, on account of the very insanitary condition of that capital, is likely to remain for some time. Vilna is also said to be suffering greatly from the epidemic, and as this town has constant communication with Königsberg the disease is very likely to be imported into the latter place. Prince Bismarck has ordered all vessels arriving at Stettin

from St. Petersburg to be quarantined, hoping to prevent the introduction of the disease by the coast, if not by the frontier. And, as matters now obtain, port sanitary authorities in this country should class as "suspected" all vessels arriving from Cronstadt, Revel, Riga, Königsberg, Dantzic, Stettin, Stralsund, and Rostock, and have them inspected on arrival by their medical officer.

In Moscow, where the cholera is prevailing, committees have been formed in the different districts for the purpose of taking precautionary measures against the disease. These committees have appointed inspectors for each district, and small hospitals have been established at which medical attendance is given day and night. All the hospitals, including those for the military, are always open for the reception of cholera patients, and printed advice has been circulated, warning the public as to their food and other general sanitary arrangements. The number of cases from June 12th to July 12th is 201; of these 106 were fatal.

The total number of cases of cholera at St. Petersburg up to the 1st August amounted to 1669, the deaths being 768.

CHINESE HOSPITAL AT SHANGHAI.

DURING the year 1871 the work of this hospital has been carried on uninterruptedly. The patients under treatment in the wards numbered 568, and 13,078 were prescribed for in the dispensary practice. A large number of cases in the dispensary practice were of a trivial nature, but there was a fair proportion requiring care and attention in treatment. Many of the applicants for admission were beggars and indigent opium-smokers; but the majority of cases, in both hospital and dispensary practice, belonged to the working classes, with a sprinkling of country people and shopkeepers. Although relatively few of the educated class apply for advice, many of them submit their children for vaccination. It is a matter for congratulation that the importance of vaccination is now fully recognised by the Chinese authorities. Dr. James Johnston, the medical officer in charge of the hospital, alluding to the cases of opium-poisoning following attempts at suicide with large doses of the watery extract, says that their number is still lamentably large—44 were under treatment in 1871, 34 of whom recovered and 10 died. Further experience of the use of atropine for opium-poisoning proves most conclusively its value as an antidote. Dr. Johnston gives an outline of sixteen cases in which it was injected subcutaneously. On every occasion when atropine was injected the patients were at the time in a state of profound coma, and insensible to the cold douche, galvanism, &c. The quantity of atropine ordinarily injected was half a grain. The indication for repeating the injection of atropine was the failure of the first dose to produce, within two hours, a dilated pupil, flushed face, and slow tranquil breathing.

THE FOUL FEEDERS OF THE THAMES.

THE Conservators of the Thames are at last awakening to a sense of their responsibilities, although these latter were acquired several years ago. For some time past the authorities at Kingston, Hampton, Teddington, Richmond, East Moulsey, Twickenham, Isleworth, Brentford, and Mortlake have been warned not to drain their sewers into the river. Engineers and other scientific men differ, however, as well as doctors, and so the Conservators have seen their river polluted from year to year while the wiseacres have been squabbling about utilisation of sewage. We are glad to know, however, that the Conservancy has girded up its loins, and marked Twickenham for condign punishment as first culprit. The local board of the district has received notice that unless immediate steps are taken with a view to the diversion of the sewage, penalties will be inflicted and enforced at the rate of £100 a day. As the other districts row in the same boat, we recommend for them all the same prescription.

THE PRINCESS LOUISE AT DUNOON.

THE Convalescent Homes at Dunoon, founded by the munificence of Miss Clugston, were visited on Monday by Her Royal Highness the Princess Louise and the Marquis of Lorne. The occasion—the second since 1583, when Queen Mary was at Dunoon Castle, of their receiving royalty—was embraced by the inhabitants as one of holiday and pageant, and the preparations, which were on a magnificent scale, owed much to the glorious weather. After the wards and their inmates had been inspected, the Marquis of Lorne presided at luncheon, and spoke in terms of the highest approval of convalescent homes in general, and those at Dunoon in particular. Over one hundred patients were receiving Miss Clugston's hospitality, and, thanks to the assistance of a bazaar in Glasgow, the Homes were in a more than solvent condition. The time (remarked his Lordship) is not far distant when every considerable life-centre in Scotland will have not only its infirmary but its convalescent home.

SCIENCE AT SOUTH KENSINGTON.

THE great movement in favour of physical education has, during the past month, been reinforced by an experiment at South Kensington, under the auspices of the Science and Art Department of Her Majesty's Privy Council. The teachers of science classes have been brought up from all parts of the country to hear distinguished lecturers on chemistry, biology, magnetism, heat, mechanics, and so forth. Professors Huxley, Frankland, Guthrie, Goodeve, and others, addressed classes averaging thirty and upwards. A pecuniary grant to cover his railway and London expenses was made to each science teacher; while the classes were visited and approved by Lord Ripon, the Right Hon. W. E. Forster, and other political and scientific notables. The experiment was so far successful as to suggest the practical extension, and reproduction at second-hand, of the work of the department throughout the British islands.

MR. LIDDLE'S REPORT OF THE SANITARY STATE OF WHITECHAPEL.

ALTHOUGH there has been no reduction of the mortality in Whitechapel during the quarter ending June 29th, 1872, there is abundant evidence of an improvement of the public health. Thus the deaths from zymotic diseases were 53, as compared with 85 the year before; and the Poor-law medical officers had only 1157 new cases, in place of 2657 in 1871, and 3426 in the year 1870. The mortality under five years of age was 35·9 per cent. of the total mortality; and it is remarkable that whilst it is only 17·3 per cent. in the Whitechapel Church district, it rises as high as 57·1 per cent. in Goodman's-fields and Spitalfields. Some idea may be formed of the overcrowding which leads to this result from the following reports:—In six houses all the rooms were found overcrowded and indecently occupied. The average cubic space to each sleeper was only 96 cubic feet, and the smell arising was most offensive. In Wells-place, Whitechapel, a kitchen was found occupied by a man and his wife, two adult daughters, and a boy six years of age. There were only 65 cubic feet for each; and in this space they lived and slept. In Hayes-court, four children were found sleeping in 330 cubic feet; and the open space is about one square yard for each inhabitant. It is a point

to note well that the want of ventilation was treated by Mr. Liddle as a common nuisance; and that the magistrate, after inspecting the premises, ordered all the houses to be ventilated by a shaft passing through the several rooms and carried up above the roof, the shaft being so constructed as to provide for the ventilation of each room as it passes through. The magistrate also ordered the common privies to be ventilated in the same way. If all magistrates would give support like this to medical officers of health there would be very little need of legislating for special nuisances.

FLOATING HOSPITALS.

WE took occasion at the beginning of the current year to give a diagram and an accompanying description of the floating hospital established by the Tyne sanitary authorities last year, in accordance with the recommendations of the Medical Department of the Local Government Board, represented by Mr. Netten Radcliffe. The committee appointed to superintend matters held a meeting in the Townhall at Newcastle on the 30th ult., for the purpose of auditing accounts and making arrangements for future working in connexion with the Public Health Bill. The financial statement showed that the cost of fitting up the vessel had been £1026, the disinfecting apparatus £280, medical inspection of vessels £302, and printing, with miscellaneous expenses, £54. We stated on the 27th ult. that the Local Government Board have recommended the authorities at other outports to imitate the experiment set by the Tyne authorities. Lowestoft has already taken the hint, and it is possible that the wealthiest port in the world, soon to be governed (in sanitary matters) by the wealthiest corporation, will not be too proud to take a leaf out of the book of her northern rivals.

THE LAMBETH SMOKE NUISANCE.

THE question raised by the Archbishop of Canterbury in reference to the Lambeth potteries is of public importance, and ought not to be allowed to drop without a definite settlement. The Primate alleges that the discharges, be they what they may, from the pottery chimneys are destructive to his house, which is in fact a public building to be preserved for its historical associations as long as possible, and that they are a nuisance and prejudicial to health. The medical officer of health for the district advises the Vestry that the emissions are injurying the Archbishop's palace, but that they are not prejudicial to health. We have doubts about this latter dictum, which are not disposed of by Dr. MacCormack's recent statement that the death-rate of Lambeth for the four weeks ending July 13th was 19·78 per 1000, inasmuch as during that period the mortality in London was exceptionally low. Further inquiry is indispensable, and we hope that the Local Government Board, to whom, according to Lord Morley, the matter has now been referred, will not be satisfied with anything short of a thorough investigation.

THE PUBLIC HEALTH BILL.

THE Public Health Bill passed the third reading in the House of Lords on Wednesday, will receive the Royal assent to-day, and will take effect twenty-eight days from this date. Lords Buckhurst and Redesdale made some stringent observations on the unwisdom of sending so important a Bill to their Lordships' house during the dying hours of the session, and the former hinted that the Bill might have been advantageously initiated in the Upper House. However, by the time that these remarks are read, this important Bill will have become law, and if the Local Government Board, the Central Medical Department of that Board, the urban, rural, and port medical officers, and the authorities who will appoint them, work honestly and diligently, we predict for the Act, as far as it goes, an entire success.

THE GENEVA CONVENTION.

OUR readers may remember that during the late Franco-German war numerous complaints were made by the French of the German soldiers wearing the brassard of the Geneva Convention. It was explained at the time that this was attributable to the fact that the assistant sick-bearers—four to a company—wore the brassard, although they were fully armed and employed as soldiers. There seem to have been some grounds for these allegations, as the Emperor of Germany has recently issued the following ordinance:—

"From trusty representations made to us, we command—as a modification of § 7 of 'The Instructions for the Sanitary Service of the Army in the Field, of 29th April, 1869'—that in future the assistant sick-bearers of the troops shall wear on the left upper arm a red band, instead of the white band with a red cross. The War Ministry will carry out the further details of this command.

(Signed) "WILLIAM.
"Berlin, 6th June, 1872." "V. ROON.

THE PRINCESS OF WALES AND THE CHILDREN'S HOSPITAL.

THE Princess of Wales knows the royal road to the hearts of children. Her Royal Highness has displayed much interest in the Hospital for Sick Children in Ormond-street, especially since inspecting the institution recently on the occasion of laying the first stone of the new hospital. She then conversed freely with the children, selecting some of those who seemed to be suffering most. And no doubt the words of sympathy she spoke were as good as medicine to the little patients and to their parents at home. For those who were not so ill, Her Royal Highness has sent toys so hardy as to be likely to last, and so plentiful as that a few of them may be sent home. Royalty never acts more worthily, or sets a better example, than in such "gracious household ways," which greatly help the healing work of such institutions.

JUSTICE BOVILL ON MEDICAL WITNESSES AND THEIR FEES.

AT the recent assizes in Carnarvonshire, Mr. R. Humphreys Owen, surgeon, of Bottwnog, made a bold stand for the proper recognition of the value of professional time and services. He had refused to sign the depositions before the magistrates, objecting to be involved in the case as a medical witness and to travel to the assizes without being guaranteed a higher fee than 10s. 6d. None will dispute the reasonableness of such a claim or the courage and public spirit with which it was made. But the Lord Chief Justice Bovill's view of it is given in the following extract from the local paper:—

"Before the Court proceeded to the civil business, Mr. R. Humphreys Owen, surgeon, Bottwnog, was ordered to stand up. The Judge, addressing him, said he was sorry to call him back, but he found that he (Mr. Owen) had refused to sign his deposition before the magistrates. He must tell him that the Act of Parliament imposed an obligation upon him, and he had no power to refuse, and if he did so on another occasion he would be liable to be indicted for disobedience.—Mr. Owen said he was not asked to sign the deposition when before the magistrates, but was requested to call at the office of the clerk, who wanted to see him. He asked the clerk if he should be allowed the proper fee, as on a previous occasion he had not been allowed the proper fee, but only 10s. 6d.—The Judge said there was a note made to this effect: 'This witness refused to sign his name unless some one would guarantee to pay his expenses.'

His Lordship wished him to know that a medical man or any other witness had no power to refuse.—Mr. Owen: But we ought, my lord, to be paid according to law. I was fighting for my rights as a medical man.—His Lordship: A medical man has no right to demand his expenses, but must take the allowance the law gives him. In some cases, I am happy to say it was not so here, it might be of serious consequence, because in case of death if a medical witness refused to sign, some difficulty might arise. I hope that after this you will not refuse to sign, and if you do that you will not die (laughter)."

GREENWICH HOSPITAL.

THE Admiralty authorities have already commenced clearing and cleaning operations in King Charles's quarter, in anticipation of the transference of the Royal Naval College from Portsmouth to Greenwich. We take leave to suggest that, pending the completion of these operations, some officer versed in sanitary matters should be consulted with reference to the general arrangements. The buildings of Greenwich Hospital are very ancient, the quarters when tenanted by the old pensioners used to be very "stuffy" indeed, and it is reported that the drainage was then, and is now, by no means perfect. As the future tenancy of part, at all events, of this palatial pile of buildings is now secured, we recommend the powers that be to examine the condition of the fixtures alow, as well as those aloft.

TRINITY COLLEGE, DUBLIN.

THE Professorship of Anatomy in Trinity College, Dublin, will, we are informed, become vacant in October next. The emoluments of the office depend somewhat upon the ability and attractiveness of the professor, and range from £1000 to £1500 per annum. As the appointment is really open to competition, we hope the younger anatomists of the three kingdoms will not fail to weigh the attractions of Trinity duly before the day of election arrives. We have reason to believe that, *ceteris paribus*, a preference will be given to the candidate who is prepared to devote the whole of his time and energies to the cultivation of scientific anatomy, and to forego the rewards of private practice.

THE BRITISH ASSOCIATION.

THE meeting of the British Association for this year will be held at Brighton, commencing on Wednesday, Aug. 14th, and terminating on Thursday, Aug. 22nd. Dr. W. B. Carpenter, F.R.S., the President elect, will deliver his inaugural address on the evening of the 14th. Numerous lectures, *soirées*, and excursions are announced, and about 400 microscopes will be in use during each *soirée*. The auspices and surroundings of the meeting for this year are so favourable that we predict for it a great and complete success. The proceedings shall be duly recorded in our columns.

LADY BUTE.

WE have much satisfaction in announcing that Lady Bute is making rapid progress towards convalescence. The fever, though high, was at no time such as to warrant an unfavourable prognosis. Even when at its maximum, the absence of delirium and other symptoms of the graver kind augured well for the noble patient.

THE NATIONAL ARTILLERY ASSOCIATION.

THE health of the detachments encamped at Shoeburyness has been remarkably good, in spite of the unfavourable weather. A gunner named Parsons, belonging to the Cinque Ports, was injured by the recoil of a gun, which sent the carriage over his foot, but we hear that he is progressing favourably. The medical arrangements are in charge of Assistant-surgeon Finnis, who also assists in superintending the officers' mess, a post the duties connected with which it requires no small skill at Shoeburyness to accomplish successfully.

THE late Dr. Oak, of Blackheath, bequeathed his residuary estate, amounting to over £25,000, to the following charities in equal proportions:—The Royal Kent Dispensary, Greenwich; the Seamen's Hospital, Greenwich; the Convalescent Hospital, Walton; the Charing-cross Hospital; the Children's Hospital, Great Ormond-street; the Infant Orphan Asylum; the Royal Medical Benevolent College, Epsom; the Royal Free Hospital; the City Orthopædic Hospital; the Asylum for Idiots; and the Royal Westminster Ophthalmic Hospital. Dr. Carr is the surviving and sole executor.

THE city of Madrid is now included in the list of foreign cities for which the Registrar-General is enabled to publish the death-rates in his Weekly Return. For the first five months of this year the annual birth-rate was equal to 42 and the death-rate to 43 per 1000. A little information about the way in which the death returns of these foreign cities are made up is essential to a right estimate of their value.

AUGUST the 1st was, as usual, "capping-day" at Edinburgh, and the graduates were addressed by Dr. Douglas Maclagan, the Professor of Medical Jurisprudence. In London, the members of the Edinburgh University Club held their quarterly dinner in the St. James's Hall on the same day. The proceedings were of the customary genial and harmonious kind.

IN consequence of the removal, by promotion, of two Senior Foundation boys, the highest of the unsuccessful candidates at the election at the Royal Medical Benevolent College in May last will be admitted as Foundation Scholars on the reassembling after the present recess. The admissions on the Foundation for the present year will be twelve—an unprecedentedly high number.

LAST WEEK the mortality in London and twenty other large towns was at the rate of 27 deaths annually to every 1000 of the estimated population, being a slight increase on the death-rate of the previous week. The deaths from diarrhœa in the metropolis amounted to 484.

A MEETING was lately held at the Warwickshire Chamber of Commerce to consider the great prevalence of foot-and-mouth disease in the county, when resolutions were passed calling for strict and energetic measures for stamping out the disease.

AT the close of the graduation ceremony on the 1st inst. at Edinburgh, a bust of the late Professor Syme was presented to the University. The bust is in marble, by Mr. Brodie, and is in all respects worthy of artist and subject alike.

THE rinderpest having appeared in Germany, the Berlin authorities issued an order on the 2nd inst. prohibiting the importation of Russian cattle along the whole of the Russo-German frontier.

WE understand that the operations of the Royal College of Chemistry will shortly be resumed at the new laboratories at South Kensington.

THE *Bombay Gazette* states that the provision of opium for 1873 will consist of 42,000 chests.

Foreign Gleanings.

THE INFLAMMATORY AGENTS OF PUS.

DR. CHAUVEAU, of Lyons, pursuing his researches on the general physiology of virulent fluids, has just published in *La Revue des Cours Scientifiques* an account of several experiments made with pus. The main result of these experiments (concludes M. Chauveau) has been to show clearly that putrid pus, which induces fatal results when injected into the tissues, becomes almost innocuous when it has been perfectly filtered, thus giving evidence of the corpuscular state of the inflammatory agents of pus.

THE IRON OF BLOOD.

In a note communicated to the Academy of Sciences of Paris, M. Boussingault gives the results of fresh experiments touching the character of the iron contained in the blood of animals. The subjects of this last series of researches have been white-blooded animals: the crimson-yellow garden snails. The blood of these animals is almost colourless, or slightly yellowish, and contains a small number of ovoid globules about the size of the globules of cows' blood. It furthermore contains some mineral substances, forming granules with a crystalline structure. One hundred grammes of the blood afforded 3·9 gr. of solid matter, which on being burnt gave 0·007 gr. of iron. The same quantity of the muscular flesh of snails only afforded 0·0011 gr. of iron; so that in snails, as in the vertebrated animals, there is a little more iron in the blood than in the muscles.

A MEANS OF RECOGNISING THE PRESENCE AND CHARACTER OF METALLIC SUBSTANCES IN GUNSHOT WOUNDS.

M. Desneux suggests the following proceeding, which he has employed in three cases. A flexible stem is covered at one of its ends with lint steeped in a solution of nitric or acetic acid, or simply vinegar. The lint is introduced into the wound for a few minutes, and then put into contact with a solution of iodide of potassium, so that reaction may take place. If there is any lead in the wound, the yellow colour of iodide of lead is immediately produced.—*Bulletins de l'Académie de Médecine de Paris.* Sitting of July 16th, 1872.

THORACOCENTESIS IN INFANTILE PLEURISY.

In the course of the discussion still going on at the Paris Academy of Medicine on empyema, Dr. Roger, physician to the Hôpital des Enfants, had occasion to relate the results of his vast personal experience of empyema in children. Referring specially to the question of thoracocentesis, and basing his opinion upon a great number of facts which he related, Dr. Roger thus tersely summed up his conclusions:—Operate *always* in cases of *purulent* pleurisy in children; operate *rarely* in cases of abundant serous effusions; *never* operate in cases of slight effusion.—*Bulletins de l'Académie de Médecine.*

CHARACTER AND TREATMENT OF MALIGNANT SCROFULOUS ANGINA.

Dr. Constantin Paul, in a long article published on the above subject in *l'Union Médicale* (number for July 23rd), reviews the whole question of malignant scrofulous angina, as elucidated by the details of twenty cases which he has been able to observe. The chief points of the paper may be summed up thus:—There *does* exist a malignant ulcerated angina of a scrofulous nature, the characters of which are now sufficiently recognisable to enable us to form a correct diagnosis and to prevent us from pursuing an injurious mercurial (anti-syphilitic) treatment. Cod-liver oil and the general remedies used in scrofula are to be employed. Locally, tincture of iodine and perchloride of iron have not been very successful in Dr. C. Paul's hands, but he has found the acid nitrate of mercury to be of service.

DIABETIC PHTHISIS.

There is some difference of opinion in respect to the real character of phthisis in diabetic subjects, some considering it to be ordinary tubercular phthisis, whilst others deny it to be such. At a recent meeting of the Société de Biologie of Paris Dr. Granchet related an interesting case of cheesy pneumonia in a diabetic sufferer, in which the post-mortem showed that there did not exist real granulations, but that the interalveolar partitions contained a considerable number of embryonic elements. Dr. Granchet argued that, if it was not well-characterised tubercle, it was at least the tubercular process, and therefore he was opposed to Lancereaux and others, who do not admit the tubercular nature of phthisis in diabetes.

ELECTRIC FORCEPS.

To the Editor of THE LANCET.

SIR,—My attention has been called to a lecture by Professor Longmore, of Netley, on gunshot wounds, recently published in your columns, in which that gentleman mentions the electric bullet-forceps, and ascribes the invention to German origin. My object in at present trespassing on your space is to request leave to correct this error. The electric forceps were invented by me, and shown in Glasgow in 1862. An account, along with a figure of the instrument, was published in the proceedings of the Philosophical Society of Glasgow for 1864-65. This publication is sent to most of the foreign learned societies. The instrument there figured gave its indications by ringing a bell, exactly in the form brought out years after as the German invention. Allow me further to add that recently I have been able greatly to simplify the instrument by dispensing with the bell and the separate battery, thus rendering it at once inexpensive, portable, and always ready for instant use. In this form it is constructed by Messrs. Mayer and Meltzer, Portland-road, London.

I beg to forward for your perusal the publication above referred to, in which the original instrument is figured.

By finding space for these few lines in your esteemed journal, you will much oblige

Your obedient servant,

JOHN TAYLOR, M.D.

Earl's-court-gardens, Kensington, August 7th, 1872.

BIRMINGHAM.

(From our own Correspondent.)

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association, which this year reaches the sixteenth year of its existence, is now holding its annual meeting in Birmingham, under the presidency of Mr. Alfred Baker, senior surgeon of the General Hospital. This is the third occasion on which the Association has visited Birmingham, and whereas about fifty gentlemen took part in the first meeting, at the present time there are nearly four hundred visitors to Birmingham, coming from all parts of the United Kingdom, as well as from America, France, Germany, and Switzerland.

Our Grammar School affords ample room for all the sections, the Classical schoolroom being devoted to the general meetings, and subsequently to the meetings of the public medicine section, and the English schoolroom to the museum; while the sections of medicine, surgery, midwifery, and psychology are accommodated in the various class-rooms of the building.

The following gentlemen have already entered their names in the visitors' book:—Dr. Gross, Philadelphia; Dr. F. Humphries, Dr. A. H. Smith, New York; Dr. Bogue, Chicago; MM. Ricord and Demarquay, Paris; G. Nagu, Lucerne; Szerygielvikz, Warsaw; W. de Muralt, Zurich; Mr. A. de Renzy, Lahore; Surgeon-Major Atcheson; Sir William Fergusson; Messrs. Spencer Wells, W. Adams, Cooper Forster, W. MacCormack, Berkeley Hill, C. F. Maunder, Hinton, and J. Marshall, F.R.S.; Drs. J. W. Ogle, E. Sansom, Althaus, Ballard, Sibson, Barnes, A. P. Stewart, Charlton Bastian, F.R.S., Wiltshire, H. Bennet, Lockhart Clarke, F.R.S., Maudsley; Roberts, Manchester; Rev. Dr. Haughton, Dublin; Dr. Fox, Clifton; Dr. Braithwaite, Leeds; Dr. Clouston, Carlisle; Dr. Arlidge, Newcastle; Dr. A. Simpson, Edinburgh; Dr. Spencer Thompson, Torquay; Dr. Batty Tuke, Cupar, Fife; Dr. Chadwick, Leeds; Dr. Waters, Chester; and Messrs. Lund,

Manchester; Hextall Smith; Stokes, jun., Dublin; Dyke, Merthyr Tydvil; Reginald Harrison, Liverpool; Husband, York; Spratley, Birkenhead; &c.

The Corporation of Birmingham, owing to some irregularity which cannot be assigned to anyone in particular, is not doing, as in most places has been done, anything in honour of the visit of the Association beyond voting an address of congratulation and welcome at their meeting held yesterday. But this comes so late that it will be more like speeding the parting than hailing the coming guest. Private hospitality is, however, doing its best to make amends for the absence of any public recognition of the Association.

The annual Museum is well worthy of examination. The objects have been arranged under the following heads:—

1. Instruments.—Arranged by Mr. Bennett May, House-surgeon to the General Hospital.
2. Models and new inventions relating to public health, invalid beds, and various appliances.
3. Electrical apparatus.—Arranged by E. Mackey, M.B., Physician to the Children's Hospital, and Professor of Materia Medica in Queen's College.
4. Calculi, &c.
5. General pathological specimens.
6. Ophthalmic specimens—Instruments.—Arranged by Mr. Arthur Bracey, Surgeon to the Eye Hospital, and Mr. Lloyd Owen, Surgeon to the Eye Hospital and Ophthalmic Surgeon to the Children's Hospital.
7. Drugs, pharmaceutical preparations, articles of diet, &c.—Arranged by Dr. Mackey and Mr. Edginton, Medical Tutor to Queen's College.
8. Pathological drawings, photographs, &c.
9. Preparations, &c., illustrative of diseases of the organs of circulation, and instruments employed in their detection and treatment.—Arranged by James Sawyer, M.B., Physician to the Queen's and Children's Hospitals, and Mr. Gilbert Smith, House-surgeon to the Queen's Hospital.
10. Obstetric and gynæcological specimens and instruments.—Arranged by Edward Malins, M.B.
11. Microscopes and microscopic specimens.—Arranged and exhibited by E. Rickards, B.A., F.R.C.S., Pathologist to the General Hospital.
12. New and ancient medical books, &c.—Arranged by J. B. Welch, M.B.

The work of organisation in the museum has been admirably carried out by Messrs. Bracey and Jolly, and the catalogue descriptive of the specimens, has been, together with the other printing arrangements, such as the *Daily Journal*, well superintended by Mr. Lawson Tait.

The proceedings commenced on Tuesday afternoon with council and committee meetings, and in the evening the first general meeting took place in the Classical school-room.

Mr. Husband, of York, took the chair in the absence of Mr. Whipple, of Plymouth, the ex-President, and introduced in highly laudatory terms the President elect, Mr. Alfred Baker.

In his presidential address, Mr. Baker called attention to the medical and sanitary conditions under which the people of Birmingham live; he deprecated the existence to so large an extent of crowded and unwholesome courts; advocated the urgent necessity for the appointment of a medical officer of health; called attention briefly to the various diseases to which the artizans of this town are specially liable, and to those to which they were incidentally liable by the use of impure water, and by the inhalation of large quantities of smoke; and then mentioned the medical worthies of the town, specially noticing Hodgson, Crampton, Ryland, and Clay, who had obtained the Jacksonian Prize of the College of Surgeons; enumerated the various hospitals and medical charities of the town, and in conclusion gave a hearty welcome to all members and visitors of the Association.

Mr. Fowke then read the annual report, which stated that since the last annual meeting the number of members had gone up from 4403 to 4700. The treasurer's accounts for 1871, duly audited, showed that the liabilities of the Association exceeded the assets by £314 17s. 10d. The Council reported that no essays had been sent in for the Hastings prize medal of 1872.

Mr. Fowke was re-elected secretary, and Dr. Fox and Mr. Washbourne were elected auditors.

A proposition by Dr. Steele of Liverpool that the travelling expenses of members attending the meetings of the Committee of Council should be paid out of the funds of the Association was warmly discussed, but lost by a large majority.

The second general meeting was held on Wednesday morning, and a discussion took place as to the place of meeting for 1873, but the ultimate decision was deferred until Friday.

At 11.30 A.M. the Address in Medicine was given by Dr. Samuel Wilks, F.R.S., Physician to Guy's Hospital, and listened to with marked attention by a large and appreciative audience.

A free public luncheon in the large room of the Birmingham Exchange followed, upwards of 300 members availing themselves of the hospitality of this branch of the Association, and at 2 P.M. the sectional work of the Association commenced.

The Rev. Dr. Haughton, of Dublin, who presided in the Public Medicine section, gave a most humorous and interesting address, in which he eulogised the self-denial and public services of the general practitioners of the kingdom, and advocated their more direct recognition by the State, particularly in sanitary matters and in forensic questions.

Sir William Fergusson presided over the Surgical section, and in his excellent address called attention to the different position which surgery now held from that which it occupied forty years ago, when he first commenced to practise it.

Dr. Maudsley delivered an admirable address in the Psychology section.

The President's *soirée* was largely attended, not only the members of the Association and their visitors, but also a large number of the nobility and gentry of the town and neighbourhood having availed themselves of Mr. Baker's invitation. The Town Hall was handsomely decorated, an excellent band and a party of glee-singers "discoursed sweet music," and the refreshments, served under the side-galleries in alcoves, which strongly reminded one of charity bazaars without the accompanying calls on the purse, were of the most liberal kind. The whole entertainment reflected the greatest credit on the liberality and good taste of the President.

Birmingham, August 7th, 1872.

IRELAND.

(From our own Correspondent.)

THE small-pox epidemic in this city, I am happy to say, may now be considered virtually at an end. The epidemic has been a severe one, having lasted about eighteen months, and it is computed that over 12,000 people were affected with it, of whom about 1500 have died. These 1500 deaths, principally among the poorer portion of the community, have caused immense suffering, throwing people out of employment and depriving numerous families of their sole means of support. It is to be hoped that this visitation may be of some service to our sanitary authorities, should another epidemic unfortunately attack us, for if active and judicious measures had been taken in the commencement of the outbreak, a far different result would have been obtained. The benefit of vaccination, and, above all, the utility of revaccination, have been admirably shown in examining the statistics of the outbreak: not one single instance of death, to my knowledge, has occurred where revaccination had been properly performed. The proposed Convalescent Home has been given up, unfortunately, I think, for although we may have no more small-pox, yet cholera may appear, and fever is always endemic in Dublin.

The desirable post of medical superintendent of the Dundrum Criminal Lunatic Asylum, vacant by the death of Dr. Corbet, has at last been filled up by the appointment of Dr. McCabe, resident physician to the Waterford District Lunatic Asylum. It is satisfactory to find that a post of this kind has been given to a gentleman already versed in lunacy matters, and not to a mere tyro. It is stated that the competition between Dr. McCabe and

another gentleman who had no experience in lunacy was very close; and if this rumour should unfortunately prove true, it is more than probable that the defeated candidate will succeed Dr. McCabe in the management of the Waterford Asylum.

Dr. Jonathan Bradley, medical officer of the Kilmoganny District, County Kilkenny, died on the 4th ult., under most remarkable circumstances. It appears that whilst getting out of bed in the morning, his feet became entangled in the bedclothes, and he was precipitated headlong to the floor. His knee, unfortunately, struck the commode, breaking it, and the sharp edge of the fracture cut and lacerated a large artery at the back of the leg. Dr. Bradley was applying cold water and a bandage when he fainted from loss of blood, and before any effectual effort could be made to stop the hæmorrhage death ensued. It seems most probable that it was the popliteal artery which was injured, as the large arteries of the posterior portion of the leg are very deeply situated and are therefore unlikely to have been wounded.

The foot-and-mouth disease in cattle has appeared in several counties, especially in Tipperary, where a large number of stock have been affected with the distemper.

The Belfast Town Council last week unanimously resolved to invite the British Association to hold their meeting in Belfast in 1874.

Dublin, August 6th, 1872.

Obituary.

JAMES HEYGATE, M.D.

A WELL-KNOWN and justly appreciated practitioner has been lost to Derbyshire by the death of James Heygate, M.D. Edinburgh, in his seventy-second year. Dr. Heygate obtained the diploma of the Royal College of Surgeons in 1823, and took his degree at Edinburgh in 1836. During his long and honourable career he filled various posts of responsibility with ability and credit; and among these were the Consulting Physicianship to the Derbyshire General Infirmary; the Vice-presidentship of the British Medical Association; and that of Justice of the Peace for the County and Borough of Derby. In consideration of his scientific accomplishments he was elected a Fellow of the Royal Society, before which he read a paper on the "Iodide of Potassium." He was an esteemed contributor to the various medical journals, and wrote with acuteness and effect an independent treatise on "Tic-douloureux." His death took place at his residence, Eaton-hill, Derby, on the 4th inst.

WILLIAM TAYLOR, M.R.C.S.

THIS able and accomplished practitioner died on the 15th of June, in his sixty-seventh year. His death occurred from the exhaustion induced by a fracture of the tibia and fibula, sustained in a street accident, the scene of which was near St. Mary's Hospital, whither he was removed. He lingered for seven weeks after admission.

A pupil of Abernethy and Sir Astley Cooper, Mr. Taylor took the diploma of the Royal College of Surgeons in 1830, and in the same year the licentiateship of the Apothecaries' Company. Besides his general practice at St. John-street-road, Clerkenwell, he held the appointments of surgeon to the Metropolitan Police-force, and surgeon to the Cholera Hospital. He published in 1850 a work entitled "New and Successful Treatment of Febrile and other Diseases, through the Medium of the Cutaneous Surface, illustrated with Cases," and in 1851 he read before the Medical Society a paper on the "Importance of the Skin of the Human Economy, especially in the Treatment of Scarlatina, Typhus, and Measles."

Personally he was much respected by a wide *clientèle* of patients, not only for his professional skill, but for his sound judgment, his readiness to give counsel on matters of every-day life, and his suave and dignified address. Medical students always found h'm their friend, ever willing to advise them with wisdom and kindness, from the stores of a long experience and a cultivated mind.

Medical News.

ARMY MEDICAL SERVICE. — The following is a list of candidates who competed successfully at the examinations held at London in February and at Netley in August, 1872, after having passed through a course at the Army Medical School, Netley:—

	Marks.
Magill, J., Cork and London	5304
O'Donnell, B. W., Dublin	4411
Donovan, W., Dublin	4338
Swayne, C. H., Dublin	4201
Brown, D. B., Edinburgh	3907
Quill, R. H., Dublin	3885
Tincler, B. M., Dublin	3870
Slaughter, W. B., London	3711
Browne, A. L., Belfast	3700
Keys, C. W. M., Cork and Dublin	3537
Bushe, C. J. L., Dublin	3385
Stokes, H. H., Dublin	3122

NAVAL MEDICAL SERVICE. — The following candidates were successful at the competitive examinations held at London in February and at Netley in August, 1872, after having passed through a course at the Army Medical School, Netley, and who will receive commissions in H.M. Navy:—

	Marks.
Edwardes, L., London and Aberdeen ...	5070
Maclean, J. C. B., Aberdeen	4212
Volatti, W. J., Dublin	3623
Davis, J. W., Galway and Cork	3601
Bernal, R. A., Dublin and Cork	3553
Stiell, J., Edinburgh	3476
Cox, H. J., Dublin	3300
Drake, C., London	3283
Wood, J., Dublin	3027
Patterson, W. H., Dublin	3002
Corrie, A. T., London	2993
Wall, J. G., Dublin	2916
Mackie, J., Edinburgh	2887
Scanlan, H., Glasgow	2788
Freeman, D. J., Dublin	2635
Nash, H. M., Dublin	2629
Stone, J., Dublin	2590

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 1st inst.:—

Eminson, Luther, Scotter, Lincolnshire.
Keseen, Andrew Emerson, Geneva-road, Brixton.
Tattersall, Lord, Bacup, near Manchester.
Williams, Leonard, Scarborough.

As Assistant in Compounding and Dispensing Medicines:—

Pearse, William Francis, Lowestoft.

On the same day the following gentleman passed his First Professional Examination:—

Hudson, John, Leeds.

ROYAL COLLEGE OF SURGEONS OF IRELAND. — At the quarterly examination held on the 17th of July, the following passed their preliminary examination in Arts:—

FIRST CLASS.—John Cristal.

SECOND CLASS.—William Folliott, Abraham W. Browne, Edwin Young, James Mathews, George Brown, Michael Fitzgerald, Louis E. Delmege.

UNCLASSED.—Andrew P. Adams, Arthur Barron, W. A. Bouyage, John Cassidy, John Crean, John Emerson, Richd. J. Hassard, Samuel Keays, Edward E. Lennon, George Lyndon, Henry M'Carthy, John P. Nicolls, George Stoker, Daniel N. Wallace.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The name of Walter Whitchurch Bryant Sparrow, of Birmingham, was accidentally omitted from our list published on the 27th ult. of gentlemen who passed the examination in Anatomy and Physiology at the College on the 18th July.

THE following operations will, we understand, be performed by Mr. Gant at the Royal Free Hospital to-day (Saturday):—Excision of the hip; excision of the ankle; and, probably, excision of the knee.

APOTHECARIES' HALL OF IRELAND.—At a meeting of the General Council of the Apothecaries' Hall of Ireland, held in pursuance of the Statute of Incorporation, on the 1st inst., the following gentlemen were elected office-bearers for the ensuing year:—*Governor:* Thomas Collins.—*Deputy-Governor:* Edward J. O'Neill.—*Court of Directors and Examiners:* Edward Howard Bolland, Charles Holmes, Arthur Harvey, Charles H. Leet, Robert Montgomery, Charles F. Moore, Henry P. Nolan, Jerome O'Flaherty, George B. Owens, John Ryan, James Shaw, John Shea, George Wyse.—*Examiners in Arts:* John William Moore, Edward Collins.—*Representative on the General Medical Council:* C. H. Leet.

THE fork-swallower of Florence is now said to be able to follow his usual occupation, and to enjoy a "splendid appetite."

MR. D. W. BYERS, of St. James's-road Holloway, was summoned at the Clerkenwell Police Court on Saturday, the 3rd inst., on the charge of falsely using the title of "surgeon." The defendant's solicitor asked for an adjournment, which was granted for seven days, on the payment of £1 1s. as costs.

BEQUESTS, &c., TO MEDICAL CHARITIES.—Mr. Gray, of Peterhead, bequeathed the residue of his estate, which is expected to amount to about £10,000, to the Royal Infirmary, Aberdeen. The General Hospital, Birmingham, has received £1000, under the will of Miss Fellows. Mrs. Crombier has given £500 to the Great Northern Hospital. Mr. George Jones, of Rosherville, bequeathed £100 to the Gravesend Dispensary, to be doubled after ten years, should there be sufficient funds in hand. The Carmarthenshire Infirmary has received £100, under the will of Mr. Horton.

Medical Appointments.

BARTLETT, W. P., L.D.S. R.C.S.E., has been appointed Dental Surgeon to the Hospital for Consumption, &c., Brompton, vice Henry H. Hayward, M.R.C.S.E., L.D.S., resigned.

BETTS, N. P., M.R.C.S.E., has been appointed Medical Officer for the newly formed Sutterton District of the Boston Union, Lincolnshire.

BIRD, W., F.R.C.S.Ed., has been appointed Consulting Surgeon to the West London Hospital, Hammersmith, on resigning as Surgeon.

BULL, W., L.S.A., has been appointed House-Surgeon to the Devonshire Hospital, Buxton, Derbyshire.

BUTLIN, H. T., L.R.C.P.L., F.R.C.S.E., has been appointed an Assistant Surgeon to the West London Hospital, vice Cooper, promoted.

COOPER, A., F.R.C.S.E., F.R.C.S.Ed., has been appointed a Surgeon to the West London Hospital, vice Bird, resigned, and appointed Consulting Surgeon.

COWEN, P., M.R.C.S.E., has been appointed Medical Officer to the Workhouse and Infirmary, St. Mary, Islington, Upper Holloway, vice J. R. Eds, M.D., resigned.

DYAS, W., F.K.Q.C.P.I., has been elected Medical Officer and Public Vaccinator for the Kiltan Dispensary District of the Enniscorthy Union, Co. Wexford, vice P. J. Carey, L.R.C.P.Ed., L.R.C.S.Ed., resigned.

EVERSHED, C. L., F.R.C.S.E., has been elected Medical Officer and Public Vaccinator for District No. 1 of the East Preston Union, Sussex, vice G. Hills, M.D., resigned.

GILLESPIE, W. H., L.K.Q.C.P.I., L.M., L.R.C.S.I., has been appointed Assistant Medical Officer to the Dorsetshire Lunatic Asylum, Dorchester.

HILLS, G., M.D., F.R.C.S.E., has been appointed Resident Physician at St. Ann's Hydropathic Establishment, St. Ann's-hill, Co. Cork, vice Glover, resigned.

HYNES, Mr. J. O'C., has been elected Medical Officer and Public Vaccinator for District No. 2 of the Nottingham Union, vice Wm. Frederick Lill, L.F.P. & S. Glas., M.R.C.S.E., resigned.

LANE, E., M.R.C.S.E., has been elected Medical Officer and Public Vaccinator for the newly arranged Kirton District of the Boston Union, Lincolnshire.

LUCAS, R. C., M.B., F.R.C.S.E., has been appointed Assistant Demonstrator of Anatomy at Guy's Hospital.

MACGILL, A., M.D., has been elected Medical Officer and Public Vaccinator for the Roydon District of the Epping Union, vice Wm. L. Horley, M.R.C.S.E., resigned.

M'GRATH, J., M.R.C.S.E., has been appointed Resident Medical Officer to the East London Hospital for Children and Dispensary for Women, Ratcliff-cross, vice J. L. Bullock, M.R.C.S.E., deceased.

MANNERS, F., M.R.C.S.E., has been elected Surgeon to the Tunbridge Wells Infirmary, vice C. Trustram, M.R.C.S.E., deceased.

MARSHALL, W. N., M.R.C.S.E., has been appointed Medical Officer for the Newent District of the Newent Union, vice W. D. Cattle, M.R.C.S.E., deceased.

MAY, W., M.R.C.S.E., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Kilmoganny Dispensary District of the Callan Union, Co. Kilkenny, vice J. K. Bradley, L.K.Q.C.P.I., L.R.C.S.I., L.M., deceased.

PEEL, Mr. W., has been elected Medical Officer for the Parish of Heathfield, in the Hailsham Union, Sussex.

PROCTER, J., M.R.C.S.E., has been appointed Medical Officer for District No. 1 and the Workhouse of the Madeley Union, Salop, vice W. T. Hartshorn, M.R.C.S.E., resigned.

PURCELL, J. G., M.R.C.S.E., L.R.C.P.Ed., has been appointed Medical Officer to the Foresters' and Odd Fellows' Friendly Societies, Knutsford, Cheshire, vice T. F. Nicholls, L.R.C.P.Ed., L.F.P. & S. Glas., deceased.

ROBINSON, J. M., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the Ballintra Dispensary District of the Ballyshannon Union, Co. Donegal, vice J. F. Stokes, L.R.C.P.Ed., L.R.C.S.Ed., resigned.

SOREY, A. L., M.R.C.S.E., has been appointed House-Surgeon to the West London Hospital.

STEWART, C., M.B., C.M., L.R.C.S.Ed., has been appointed Medical Officer to the Shawsburn, Auldtown, and Ashgill Collieries, Larkhall, Lanarkshire, vice J. Wilson, M.D., resigned.

WILLIAMS, D. W., M.D., has been appointed Medical Officer to the Corris Slate Quarries, near Machynlleth.

WOOD, R. A. H., M.R.C.S.E., has been appointed an Hon. Medical Officer to the South Dispensary, Liverpool, vice J. E. H. Pughe, M.R.C.S.E., resigned.

Births, Marriages, and Deaths.

BIRTHS.

BURNS.—On the 28th ult., at Whitevale-street, Glasgow, the wife of Dr. W. M'G. Burns, of a daughter.

HEWAN.—On the 31st ult., at Minera-street, Eaton-square, the wife of Archibald Hewan, M.D., of a son.

JACKSON.—On the 29th ult., at Smethwick, the wife of W. F. M. Jackson, M.R.C.S.E., of a son.

MOORE.—On the 30th ult., at Museum-street, Ipswich, the wife of H. G. Moore, L.R.C.P.L., of a daughter.

TANNER.—On the 4th inst., at Eastern Lodge, Kempsey, Worcester, the wife of R. C. Tanner, M.R.C.S.E., of a daughter.

THANE.—On the 7th inst., at Charrington-street, Oakley-square, the wife of W. D. Thane, M.R.C.S.E., of a son.

MARRIAGES.

KING—CASE.—On the 31st ult., at Christ Church, Lancaster-gate, Robert King, M.B., M.R.C.P.L., to Esther, daughter of Robert Case, Esq.

NURSEY—THOMPSON.—On the 23rd ult., at St. Thomas's Church, Bishopwearmouth, Charles Fairfax Nursey, L.R.C.P.Ed., L.F.P. & S. Glas., to Frederica Isabel, only child of the late Francis Decimus Thompson, Surgeon.

DEATHS.

BENNETT.—On the 31st ult., at Mayow-road, Forest-hill, Henry Bennett, F.R.C.S.E., of Shaftesbury, aged 68.

CARLOS.—On the 17th of June, Wm. Carlos, M.B., of Long Melford, Suffolk, aged 29.

PITCAIRN.—On the 1st inst., Wm. Pitcairn, Esq., of Cunnoquhie, Fifeshire, formerly of the Hon. E.I.Co.'s Medical Service.

STEWART.—At Camphill, Lumphanan, Aberdeenshire, Alex. Stewart, Surgeon, aged 71.

THOMAS.—On the 13th of June, John Thomas, M.R.C.S.E., of Hebden-bridge, Halifax, aged 76.

WRIGHT.—On the 25th ult., David Wright, F.R.C.S.I., of Vergemount, Clonskea, Co. Dublin, formerly of Emma-vale, Arklow, Co. Wicklow.

Medical Diary of the Week.

Monday, Aug. 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Aug. 13.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL FREE HOSPITAL.—The following Operations will be performed by Mr. Hill at 2 P.M.: Excision of the Elbow, Excision of the Knee, Lithotrity, and probably Amputation of the Thigh, Excision (or Amputation) of the Wrist.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Aug. 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 3 P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Aug. 15.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Friday, Aug. 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Aug. 17.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 2½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

Notes, Short Comments, and Answers to Correspondents.

TRY ALGIERS.

By all means; but do not take in all the Guide-books say as to the temperature. How (asks an intelligent correspondent) is the mean temperature of a day to be ascertained? Only proximately, and after a great number of observations. Merely to take a mean between the highest and lowest reading may be quite fallacious. A climate, generally uniform in its weather, may be subject to dangerous eccentricities. At Algiers we are told the mean daily range of March last was 15°; but what avails this knowledge unless the further fact is known that two-thirds of the mean daily range was traversed in about three hours in the afternoon? Invalids arrive in Algiers armed with the doctor's mandate not to be out after sunset; but judging from a winter's observation, if they remain out until sunset, or within half an hour of it, they may (so far as temperature is concerned) remain out till long after it. In January the temperature, normally, begins to fall about half-past one, and continues to fall till about four, between which time and nine P.M. there is rarely more than one degree of difference. Up to the middle of February there is little rise in the temperature till ten A.M., between which hour and noon it has risen 6° to 8° in bright weather, and half that amount in dull. From half-past one to four the temperature falls. Throughout the winter noon is the warmest period of the day; but this is not an absolute law. "You may in an instant pass from the weather of a fine July day in Scotland to that of a stormy October one." For instance, on February 15th, at two P.M., with a gentle sirocco blowing, the temperature was 74° in the shade, the sky cloudless, and the sun hot. Presto! a gale from the N.W. springs up; doors bang, and windows rattle. The mercury of the thermometer sinks visibly till, in an hour or so, it has fallen 18°. The sky is completely overcast, and a tempest is at its height. A similar case occurred on the 28th March, and again on the 29th. The thermometer traversed a range of 36° in less than forty-eight hours. Changes like these are, of course, extreme; but they should be fairly estimated before the phthisical invalid yields to the advice of friends to "try Algiers."

Indignant should lodge his complaint with the General Medical Council, having previously satisfied himself that the party referred to is duly enrolled on the Register.

Mr. Wm. Date.—We cannot say at present whether it will be used.

OCCLUSION OF THE VAGINA AND DISSEMINATION OF TUBERCLE.

To the Editor of THE LANCET.

SIR,—In Dr. Henry Thompson's comments on the case of "Occlusion of the Vagina" in last week's LANCET, he describes the sac as filled with "dark, grumous, offensive material," and connects the wide-spread dissemination of tubercle with the arrest and imprisonment of the catamenia in the vagina. The catamenia were never arrested in the sense this term is usually used; they were retained after their formation. He also describes the matter removed from the vagina as "decomposing." Does he mean that the matter was decomposed during life? If so, it would be a most unusual thing, as in such cases the collected discharge is without smell. I can find no record of any case in which the menstrual blood in such a case is described as decomposed. The case has an interest in an antiseptic point of view, as, if the blood was decomposed before death, then such action can take place without the admission of air, and antiseptic theories are vain. If the decomposition was a post-mortem result, what becomes of the theory that it was the cause of the deposit of tubercle? It would appear more likely that the formation of tubercle was determined by the irritation caused by the imprisoned fluid. Decomposition, if possible, would have been more likely to produce pyæmia or some allied blood-poisoning. The operation for the relief of imperforate hymen has proved fatal several times, and I would offer a suggestion that it might be performed with much greater hope of success under the antiseptic shield of carbolic spray during the evacuation of the discharge, and the subsequent use of weak carbolic injection to the vagina and uterus. Yours, &c.,

Leamington, August, 1872. JAMES THOMPSON, M.B.

A Subscriber.—We cannot refer to any work specially treating of the subject to which our correspondent alludes; but he will find it fully referred to in any work on Hygiene, such as that by Dr. Parkes on "Practical Hygiene."

Mr. J. H. Broughton's communication has been received, but too late for notice this week.

Honestas.—Our correspondent has omitted to enclose his card.

A BATTERSEA INQUEST.

To the Editor of THE LANCET.

SIR,—I beg to forward you an account of an inquest recently held in this part of Surrey.

On Friday night last a poor woman, residing in Winstanley-road, Battersea, retired to rest in her usual health (so far as anybody about her knew). A son, about ten years of age, slept with her. In the morning, when the boy awoke, he spoke to his mother; but getting no reply he raised himself in bed to look at her, when to his great horror he saw, as he thought, that his mother was dead, and such was the fact. A medical gentleman was at once sent for, and promptly attended. An inquest was held on the following day, when the above evidence was given, but *no medical man was called*. The jury, by the direction of the coroner, returned a verdict of "Died from natural causes." I am, Sir, yours faithfully,

August 6th, 1872. A RATEPAYER.

SANITARY TRACTS.

MRS. BAINES continues to be indefatigable in making sanitary suggestions, and publishing them in pamphlet form, suitable for free distribution. Without pledging ourselves to a perfect agreement with her, it would be well if householders and their servants could read her results on the proper use of dustbins, on the diet of children, and on the diet in diarrhœa. All these topics are touched upon in a pamphlet entitled "Some Sanitary Precautions against Cholera and Diarrhœa." She suggests the appointment by householders of "female sanitary inspectors" to look after waterclosets, dustbins, &c. We think such things should be looked after by householders themselves.

Long Suffering.—We do not think that it forms any part of the duty of an army surgeon to examine recruits for the Irish Constabulary.

Mr. Thos. Fletcher is thanked for his courtesy.

HINTS FOR VOLUNTEER MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—I am anxious to take the opportunity offered by the approaching autumn manœuvres to submit to the proper persons, through the medium of your columns, the following observations, which I venture to believe will be of some practical service to those interested in the success of the manœuvres as affecting the volunteers.

Last year I had the honour of being appointed to discharge the duties of surgeon to one of the volunteer battalions which took part in the manœuvres, and I noticed men in the ranks whose weight must have been wellnigh eighteen or twenty stone (these men and men of this class constantly fell out); also old men, whose physical condition totally unfitted them to undertake the fatigue without great risk and distress to themselves (these men had to use stimulants very freely). There were present extremely delicate and weakly young men and youths, who had outgrown their strength, and who could hardly carry themselves, much less a rifle and kit. Lastly, the following diseases were represented on the field:—Consumption far advanced, heart disease, apoplectic cases, rheumatic cases, hernia, &c. Indeed there was a mixture of constitutional complaints and diseases. I asked several of those volunteers who suffered from chronic complaints why they came, and their reply was, "We thought the change would do us good."

Now what does this suggest? Why, that *no volunteer should be permitted to take part in these manœuvres without a certificate of health from the surgeon of his regiment.*

Secondly, I next propose to name the most simple complaints which will come under the surgeon's notice, together with the treatment I found most useful in each case. (The surgeon must remember that he has only the Field Companion, which contains but a limited supply of surgical appliances and medicines, to use in the treatment of all classes of cases.)

For blisters &c. of the feet, I passed a piece of silk or worsted through the blister, then divided the silk or worsted so as to allow the ends to hang out. If there be inflammation, I cover with lint, and then with soap plaster; but in the absence of inflammation I did nothing more than insert the worsted drain. Where the skin had been removed, I covered with lint, dry or oiled, and then with adhesive plaster or soap plaster. Where tenderness or soreness was complained of, I ordered washing, and covered with soap plaster. On the march plaster only was put over the tender part. Blisters between toes I usually pricked slightly to let out the fluid, and then passed a piece of lint between the toes. In cases of tenderness and friction I merely put lint between the toes.

Many fat men complained of being chafed between the thighs. A little oil applied every now and then gave sufficient relief to enable these men to continue the march. There were cases of blistering of the nose and nasty eczema of the lips. I applied oil and glycerine, which gave relief.

Most of the above class of cases, as a rule, will apply to the surgeon after the regiment has been on the march a few miles, and will ask to ride. Although it will be necessary to give a man rest now and then, the ambulance should always be kept as free as possible for the more severe cases which may come in towards the end of a long march.

It will be observed from the class of cases mentioned above that the surgeon will require oil and glycerine, zinc ointment, and plenty of soap plaster, as these articles are not provided in the Field Companion.

I might draw attention to one or two other cases which came under my notice.

Sudden œdema of head and face.—Treated with weak solution of tincture of iron (which will be found in the Field Companion), lint being saturated and placed over the affected part, and the head carefully protected from the sun. One or two cases of erysipelas were treated in a similar manner. These cases did well.

For diarrhœa there is a special mixture provided in the Field Companion, together with instructions how to use it.

For costiveness there are two or three sorts of pills and powders in the Field Companion.

For feverishness, headache, &c., I always gave one of the remedies to be found in the Field Companion. Aperients had the best effect, with twenty-four hours' leave from duty.

On the march all severe cases were taken into the ambulance, and when in camp were at once transferred to the Field Hospital; but if they were not likely to recover in time to take further part in the manœuvres, I applied to the commanding officer for permission and a pass to send them home. (I might state here that whilst conveying a patient in the ambulance to Farnham station I was taken prisoner.)

In conclusion, let me advise the surgeon to make application to the staff officer of the medical department in the field for an ambulance for the use of his regiment directly he arrives in camp. Before marching, the surgeon should see that the water-barrel is full and in order, because I lost all the water twice from the barrel being leaky and the tap jumping out. This caused great inconvenience and distress, as no water could be obtained at the time it was most wanted. The surgeon should have also a plentiful supply of what I called A 1—viz., brandy. He will find this a useful medicine, and there will be great demand for it.

Although my remarks are very long, and not well put together, I trust they will be understood and found useful to those who may have to take part in the coming autumn manœuvres in the volunteer medical department. I am, Sir, your obedient servant,

S. CARTWRIGHT REED, M.D.,
Captain, late Acting Surgeon 2nd Adm. Bat. R.V.

August, 1872, during Autumn Manœuvres, 1871.

INFANT MORTALITY IN NEW YORK.

HEAT, as intolerable as that which beset the "Ancient Mariner" and his crew, continues to afflict New York. Not only have cases of sunstroke reached a frightful average, but deaths from nearly every cause still swell abnormally the mortality returns. 1056 deaths—about double the usual number—were recorded the week before last; while in Philadelphia they amounted to 885, about treble the average. But the infant mortality remains the most appalling feature. Cholera infantum, almost endemic in the Empire City, has assumed something of the proportions of an Egyptian scourge. The heat, with its insanitary sequelæ, operates disastrously on an infant population, which, owing to the premature marriages of its parents, is, as a rule, deficient in stamina and "staying power." It is quite usual in New York for a beardless lad of eighteen to wed a child of sixteen, with the inevitable result of begetting a progeny rickety, scrofulous, and (to use the indigenous phrase) "hastily run up." Asiatic cholera has already numbered one victim, and New York trembles to think what ravages that pestilence will make when it fairly "warms to its work."

THE communication of *Mr. Stamford* (Tunbridge Wells) arrived too late for notice this week. The subject shall have our consideration.

MEDICAL ASSISTANTS.

To the Editor of THE LANCET.

SIR,—I think the remarks of "A Principal" in your journal of last week unnecessarily severe and quite uncalled for (respecting both qualified and unqualified assistants). I do not take up the pen on behalf of the former, as I am sure they can well defend themselves. I cannot, however, refrain from offering a few remarks on behalf of the latter, to which class I have the misfortune to belong; and if I can make one or two suggestions on our behalf that will in any way tend to improve our position, or that will explain to "A Principal" why he obtains such a bad class of men, I shall have more than accomplished my purpose.

Our grievances come under three chief heads. Of course there are innumerable others, too trivial perhaps in themselves to mention; but in the aggregate all go but to swell the grand total until we at length get the proverbial "last straw." Under the three heads, then, we will consider—1st, salary; 2nd, hours of work and relaxation; and 3rd, treatment.

1st. Salary. Now, considering the expense of our education, and the appearance that we are expected to make, together with the fact that it is now the fashion to be of a "certain height and weight, and send carte," is not our pay ridiculously small, £40 to £50 per annum, and frequently less? But your correspondent says he knows of "few practitioners who would not be quite willing to give fair remuneration for competent services." Now, Sir, if this really is the case, how will "A Principal" account for the numerous advertisements which appear in your valuable journal weekly, offering £40 to £60 per annum for the services of fully qualified men? One gentleman with whom I resided, and of whom I demanded the modest sum of £50 yearly, demurred sadly, saying that he had never given so large a sum before to an assistant legally unqualified, but that he would not mind giving me £45. For this sum I had to take my share in visiting, attending midwifery, and doing the whole of the dispensing; and when I tell you I have often dispensed over one hundred bottles of medicine a day, besides paying between twenty and thirty visits, and also taking my fair share of between three and four hundred cases of midwifery per annum (all being private patients), I think you will agree with me that the remuneration was totally inadequate to the services.

2nd. Hours of work and relaxation. In this age of strikes and eight hours' movement we can scarcely be expected to work fourteen hours daily, besides night work and Sundays; but this, I am sorry to say, is too often the case. The principal at the same time sees his friends at his own house or elsewhere, and makes his engagements as he pleases; but the assistant is too often compelled to take what little recreation he is allowed whenever it is convenient to the principal, and not when it would be most agreeable to himself; even then the time allowed is so short sometimes that he has neither the leisure nor inclination to go where he would. What wonder, then, if he sometimes adjourns to the nearest public-house for solace?

3rd. Treatment. Now, a principal can hardly expect an assistant to wash out dirty bottles, carry out the medicine, and do other similar work of an errand-boy; for by a little management it can be very seldom that such services are even necessary. Clean bottles should always be ready at hand; and if the case be really so very urgent, surely the patient would not object to send his servant over for the medicine. Further, perhaps although living under the same roof, and having an equal or even superior pedigree to his employer, he is not treated as a member of the family in any way.

Now, Sir, I think if principals cannot deign to treat assistants on an equal footing with the other members of the family, they should engage them to live out of the house. I am not over-particular myself as to where the line of duty should begin and where end, and have even "condescended" to carry out a bottle of medicine; but when I found my duties were extended to carrying out game, it was then, and not until then, that I perhaps became

August 5th, 1872. ONE OF THE IGNORANT AND IMPUDENT ONES.

To the Editor of THE LANCET.

SIR,—I have a few remarks I should like to make in connexion with a letter that appeared in your issue of the 3rd instant, signed "A Principal." Though the letter contains some hard yet true statements, on the whole I must say it is a most unfair and unkind one. I should wish to know what your correspondent means when he states that "there are hosts of young men fledged in every way theoretically, and with diplomas to any amount, that are thoroughly incompetent to stand in the place of the principal even in trivial cases." Does he mean to infer that the teaching they obtain for the hospitals of the present day is inferior to when he was an assistant? If so, why blame the assistant? Again, does he mean that they are incompetent to manage a surgery? If this is his meaning, what are we to infer by it? If he alludes to keeping the books, and to having a reserve stock of drugs, &c., I cannot for a moment see how the public suffer from it. And as to an assistant's professional knowledge, surely if he has undergone his curriculum at the hospital, and obtained his diploma, he is as capable of exercising his ability in a surgery as in a hospital or a private bed-room. If not, why blame him? It is the Colleges that ought to be attacked; for it is there the line is drawn which a student must reach; and if he does reach it, and gets admitted, and yet in "A Principal's" mind is still incapable, I ask where lies the fault? As regards the "ridiculously proud ideas" (as your correspondent remarks) that exist among young men of the present day, I cannot see how it matters to the public whether the assistant washes a bottle or mortar, or gets someone to do it.

Now with respect to "unqualified assistants" and "concealed incompetence," I am ready to allow it is detrimental to the public; but I should wish to see the difficulty overcome in a better way than "A Principal" suggests. Is there no blame to fall at the doors of the principals? Are there not many men who obtain situations with surgeons, not with premiums—for there there is a hold,—but without? And what is the consequence? They get little or no attention from their employer, who, as soon as the mere dispensing is learnt, leaves them to themselves, making use of them whenever he requires it, both for visiting and any other purpose, but, as I say, taking no trouble to instruct them. Now, Sir, I think if every surgeon (as no doubt "A Principal" does) took an interest in his pupil, whether paid or unpaid, the difficulty of unqualified assistants would soon be done away with. If such a law as your correspondent suggests were made to compel every one intending to become an assistant to pass an examination in dispensing, are there not many young men who, like myself, would find it a great difficulty to meet the expense of preparing for such an examination (for I take it some school would have to be established), in addition to the great expenses of the hospital curriculum? And certainly "A Principal" would not say such men ought not to enter the profession; for he must remember our wisest physicians and surgeons were not always those who had a full purse to help them on with. Again, your correspondent must remember when he abuses testimonials that it is his own "cloth" that gives them.

In conclusion, Sir, I must say that if "A Principal" had remembered that the assistant, qualified or unqualified, is the root of the principal, he would never have used such a severe and uncalled for sentence as, "The ignorance displayed by some of this class (meaning assistants) is only equalled by their impudence and bad habits."

I remain, Sir, yours, &c.,

August, 1872. AN UNQUALIFIED ASSISTANT.

To the Editor of THE LANCET.

SIR,—I have occasionally secured some help from youngsters, and my experience has been that highly read men, good at diagnosis, operations, and treatment, are often not "up" to pill-rolling, bottle-cleaning, and the shop-boy's aptitude with tinctures, &c. &c. A little kindly advice for one short week, as a rule, meets with success. Surely one who can cross the rubicons of University, College, and Hall, is soon qualified for manipulating in the surgery. In my humble opinion, a principal has *no right* to expect an educated gentleman to clean gallipots, pans, and basins. It is the *duty* of the errand-boy. I wish to be rightly understood. All should be above small thoughts, try and become neat dispensers, and do anything for the suffering, but not white slaves to pottering. Low-bred fellows, who exercise their "puddle-blood" authority, insist on their "pound of flesh," and do their best to snub clever physicians and surgeons, who may be unable *pro tem.* to fold a medicine parcel or turn out a pill with the exquisite dexterity of a counter-jumper. How many a heartache would be avoided if the poor, proud, and gently born had even an apology for an aristocrat as his master! More, thank God, on the other hand, are associated with gentlemen. It is best to conquer the pill-rolling at once, and rejoice in the idea. *Contendisse decorum est.* Your obedient servant,

August 3rd, 1872. M.D.

To the Editor of THE LANCET.

SIR,—There is one argument against the employment of unqualified assistants which I have not seen mentioned in any of the recent letters in THE LANCET on the subject, although it appears to me to be a most weighty one—viz., that it is from the ranks of unqualified *assistants* that unqualified *practitioners* spring; and if the former were done away with, we should find the number of the latter diminished, and it is these latter who injure the profession most by lowering fees, &c. I myself know a neighbourhood near London where two unqualified men do considerable practices by attending the poor people, who almost exclusively inhabit the locality, for charges with which a qualified man could not compete, and these men had both been assistants in the neighbourhood before they began to practise for themselves. Indeed every unqualified practitioner must have gained whatever experience or knowledge he may possess by having acted as an unqualified assistant.

I think, too (and have known more than one instance of it) that the fact of a man beginning practice *before* he is qualified acts as a deterrent to his ever becoming so, because when he finds he can make a livelihood without a qualification the stimulus of necessity is removed, and he becomes too often disinclined for the exertion of finding either time or money to obtain what is not actually indispensable. Yours faithfully,

August 3rd, 1872. L.M.

PAUPER LUNATICS.

THE *Globe* admits a letter attempting to account for the great increase of pauper lunatics. A medical man (quoth the correspondent), after perhaps a fortnight's anxious watching of a patient, gets a fee if he certifies "mad"; but if he restores the patient to his friends (or, having none, to his liberty) he gets none. *Ergo*, he has an inducement to certify "mad." The medical man, we answer, is always entitled to a fee when consulted by the magistrate; and if he does not exact it, he has himself to blame.

"VIEWING THE BODY."

To the Editor of THE LANCET.

SIR,—It is clearly laid down in all the books that an inquest of death can be taken by a coroner *super visum corporis* only, and that both the coroner and the jury must view the body at the first sitting of the inquest, otherwise the inquisition is void. In strictness, the jury and the coroner should view the body at the same time, in order that the jury may have the benefit of the coroner's remarks upon the appearances which the body presents. The law is not satisfied by a view of part of the body only. The abuses which such a precedent might produce are obvious.

I remain, Sir, yours obediently,

Maida-hill, August 6th, 1872. R. S. SIBSON, M.D.

REMBRANDT'S PORTRAIT OF THE PROSECTOR.

THIS the first of the three great medical portraits—Girodet's Bichât being the second, and Sir Joshua's John Hunter the third, if indeed Mr. Millais' James Paget is not a fourth—was sat for by Nicholas Tulp, the Dutch physician and patriot, who was born at Amsterdam in 1593. Eminent in the science of the healing art, he was elected Burgomaster of his native city, and, though a very old man, so vigorously aided in repelling Louis the Fourteenth's invasion of Holland in 1672, that a silver medal was struck in his honour, bearing the motto, "Vires ultra sortemque senectæ."

Dr. C. Macnamara is thanked for his courtesy. The matter shall receive attention.

H. M., (Enfield.)—The preponderance is statistically, we believe, on the side of the male births.

Fusbos.—We believe there is no well authenticated case, if we except those in the pages of Captain Marryatt and others!

A CASE IN MIDWIFERY PRACTICE.

To the Editor of THE LANCET.

SIR,—The following case, as it interested myself, may lead others to see the same sight for themselves.

Having delivered a patient of one fœtus, and finding another presenting by the head, with a very firm sac, I carefully caught a foot, and drew it down with the sac entire. Then pulling on the first funis, and directing pressure on the uterus, the whole fœtus was extracted, lying in the liquor amnii, motionless, and with its legs doubled up as if in utero. The placenta, for there was only one, without the slightest semblance of a septum, was close to the vulva. During the passage of the fœtus the liquor was seen circulating around the limbs and body, of a pale straw colour, with many curds floating in it, no doubt of the same nature as the vernix caseosa which covered the back and nates.

In 1000 cases I have only known one similar; but in that the expulsion was so rapid that no time was given to watch the phenomenon.

I am, Sir, yours truly,
Sidcup, July 28th, 1872. S. WORDSWORTH POOLE.

P.S.—The parents were delighted with the care taken to preserve the caul.

HOSPITAL PHYSICIANS AND OBSTETRICS.

A CORRESPONDENT complains that in his town—a provincial one—two hospital physicians, who had agreed not to practise obstetrics, have both attended cases within the past year. It is only right to consider that there may have been something exceptional in the circumstances. With this qualification it is obvious that all men, and especially physicians, should abide by an agreement.

Mr. W. Bower might read the following authors: Tyndall, Balfour Stewart, and Miller.

Dr. Sargent.—We do not think it a valid ground of objection, provided the gentleman be otherwise qualified.

SURGEONS TO EMIGRANT SHIPS.

To the Editor of THE LANCET.

SIR,—I beg to address these few remarks to your valuable journal, in the hope that they may prevent anyone else being victimised as I have been.

In the early part of last December I entered into an engagement with a firm of shipping agents to act as surgeon to an emigrant ship going out to this colony. When I was engaged the agents informed me that the Government of New Zealand made it a practice to give the surgeons of emigrant ships a gratuity of half-a-guinea per head for every emigrant landed in this colony. I had thus anticipated receiving about £50 from the Government; but I found when I made application to the emigration officer at Wellington that a rule had lately been made by which the Government had decided upon stopping it in future, and consequently it would not be paid to me.

Sincerely trusting that you will give this publicity for the benefit of others coming out to this colony,

I am, Sir, your obedient servant,
JOHN T. LEIGH,
Late Surgeon in charge of the ship *England*.

Auckland, New Zealand, May 5th, 1872.

Ignoramus.—All medical appointments in the Government Emigration Service are made by the Emigration Commissioners, Sir T. Murdoch and Mr. Stephen Wallcott. The Emigration Commission is a branch of the Colonial Office, and is located at 8, Park-street, Westminster.

J. R. W.—At neither examination would the privilege mentioned be conceded.

A Lady had better take the advice of a medical friend as to the dermatologist she should consult. We must decline to nominate anyone.

THE EXAMINATIONS AT THE COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—Will you allow me a corner in your next issue to reply to the letter of "A Former Teacher of Anatomy" in your last number. He wishes to know the reason of the great comparative success of Bartholomew's men at the primary examinations of the College of Surgeons. I think I can explain it to him. For some time before the examinations the Demonstrators are hard at work preparing the men who intend going in; and if at last a man is found not to be *almost certain* to pass, he is not allowed to present himself for examination. It is only fair to our Demonstrators to acknowledge the infinite pains which they take to secure every man's success, and all Bartholomew's men, whether they pass or not, owe them their best thanks. "A Former Teacher" ought to have known that the insinuation concerning the treatment which we receive at the examining-tables was much beneath his dignity, and needs no comment. Yours obediently,

July 31st, 1872. BART'S MAN.

Mr. J. Griffin, (Banbury.)—In the event of our correspondent taking the matter up in the way to which he alludes, we think that it had better be left to an analytical chemist. If our correspondent will refer to Parkes's Practical Hygiene, he will obtain much information on the subject of milk and its adulterations. The specific gravity and the amount of cream may vary a good deal from different circumstances, irrespective of adulteration. A lactometer is decidedly useful; but it is essential that the temperature and the amount of cream, as well as the specific gravity of the milk, should be determined. These, taken in conjunction with the physical characters, will give a sufficiently accurate idea of the quality. Stanley's lactometers are both useful and cheap instruments for the purpose.

A Learner will find Dr. Green's Introduction to the Study of Pathology and Morbid Anatomy, and the American translation of Rindfleisch's Text-book of Pathological Histology, to be obtained through Trübner and Co., suitable for his purpose.

M. A. V.—We know nothing of the individual, and would advise our correspondent to consult a respectable practitioner in his own neighbourhood.

ERYTHROXYLON COCA.

To the Editor of THE LANCET.

SIR,—Would your correspondent, "Richard Verity," kindly say where the above is to be procured in London. I have made many inquiries without success. Your obedient servant,

August 3rd, 1872. ISHMAEL.

Mr. Lawrence, (Queen's-road.)—We fully concur in what our correspondent says regarding the appearance of such advertisements. But how is the evil to be overcome?

A. B. C., (Newry.)—We cannot see that anyone is to blame in the matter. It is better to settle such subjects by a little frank and friendly representation.

Mr. Clubbe, (Lowestoft.)—Blocks have to be prepared for the plans of the floating hospital.

Juvenis.—The Students' Number will be published on September 14th.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. T. Holmes; Dr. S. Wilks; Dr. Henry Bennet; Dr. Harley; Mr. Pemberton, Birmingham; Dr. More, Rothwell; Dr. Nursey, Ipswich; Mr. Taylor, Buxton; Mr. Fletcher, Warrington; Mr. Compton; Dr. Althaus; Mrs. Baines; Dr. Sloman, Farnham; Mr. Harris; Mr. E. Jones; Mr. Dale, Crewkerne; Mr. Nicholls; Mr. Manser, Tunbridge Wells; Mr. Black; Dr. Whipham; Dr. F. Gould, Chester; Dr. Burns, Glasgow; Mr. J. W. Ussher, Donegal; Mr. Bryant, Birmingham; Dr. O'Brien; Mr. White; Mr. Brown, Newbury; Dr. Colman, Vienna; Mr. Lyall; Dr. Hanrahan, Newhaven; Mr. Allan; Mr. Tyrrell, Nottingham; Dr. MacCabe, Waterford; Mr. Ball, Brighton; Dr. Spencer, Holloway; Mr. Morgan; Mr. Orton, Henfield; Mr. Caulfield; Mr. H. Baines, Armley; Dr. Yeats, Stafford; Dr. James Thompson, Leamington; Mr. Sobey; Dr. Sisson; Dr. F. P. Porcher, Charleston, S.C.; Mr. Simpson; Dr. E. Hulme, Dunedin, New Zealand; Mr. J. T. Stratton, Brooklyn, California; Mr. Payne; Mr. Turner; Dr. Cartwright Reed; Mr. Hughes; Mr. Leigh, Auckland, New Zealand; Dr. Taylor, Kensington; Dr. Stamford, Tunbridge Wells; Mr. Moore, Peterfield; Mr. Dixon; Mr. Shepperton, Spalding; Dr. Crowther, Luddenden; Dr. McKellar; Mr. Charton, Okehampton; Mr. Darwin, Coldstream; Mr. Chipperfield, Daventry; Mr. Gorton, Sutton; Mr. Greenford, Caterham; Mr. Jackson; Mr. Ling, Saxmundham; Dr. Fogerty, Limerick; Mr. R. N. Macpherson, Newcastle-on-Tyne; Mr. Newton; Mr. Wood; Mr. Boylton, Tewkesbury; Mr. Deverell; The Director-General of the Army Medical Department; An Ungrateful Assistant; R. H. L.; M.D.; An Unqualified Assistant; M. A. V.; J. R. W.; Ishmael; L. M.; A Learner; C. B.; X. X., Guy's; One of the Impudent and Ignorant Assistants; A Lady; A Retired M.D.; A. B. C.; Experientia Docet; Omega; Partially Qualified; A Ratepayer; H. M., Enfield; Inquirer; Ignoramus; H.; Anti-Humbug; Indignant; A Subscriber; L. D. F.; Long Suffering; Honestas; Fusbus; &c. &c.

Reynolds's Newspaper, Hackney Gazette, Archives Générales de Médecine, Tavistock Gazette, North Wilts Herald, Tewkesbury Record, and *Tunbridge Wells Gazette* have been received.

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